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ABSTRACT

These proceedings contain 10 presentations and a panel discussion from a conference to acquaint the Northeast with a structure for developing and implementing solutions to improve the Northeast economically. A statement of purpose for the conference is followed by introductory remarks. The 10 presentations concern these topics: improvement in the northeastern economy and the role of labor training in that improvement, use of employment and training programs as a resource in economic development, educational instruction to meet student and industry needs, use of Employment Security 202 (E-202) data in detailed employment projections and analysis, solutions to the demand for labor in high technology occupations, producing a trained workforce which can guarantee a faster startup and improve productivity, the human resources condition as the most critical factor in the retention of industry, apprenticeships, and Design for the Eighties, South Carolina's approach to technical education. The panel discussion presents comments from five individuals on education, business, and labor cooperations to improve the employment situation and economic development. Improving the education-work relationship is the focus of the president's commentary. (YLB)

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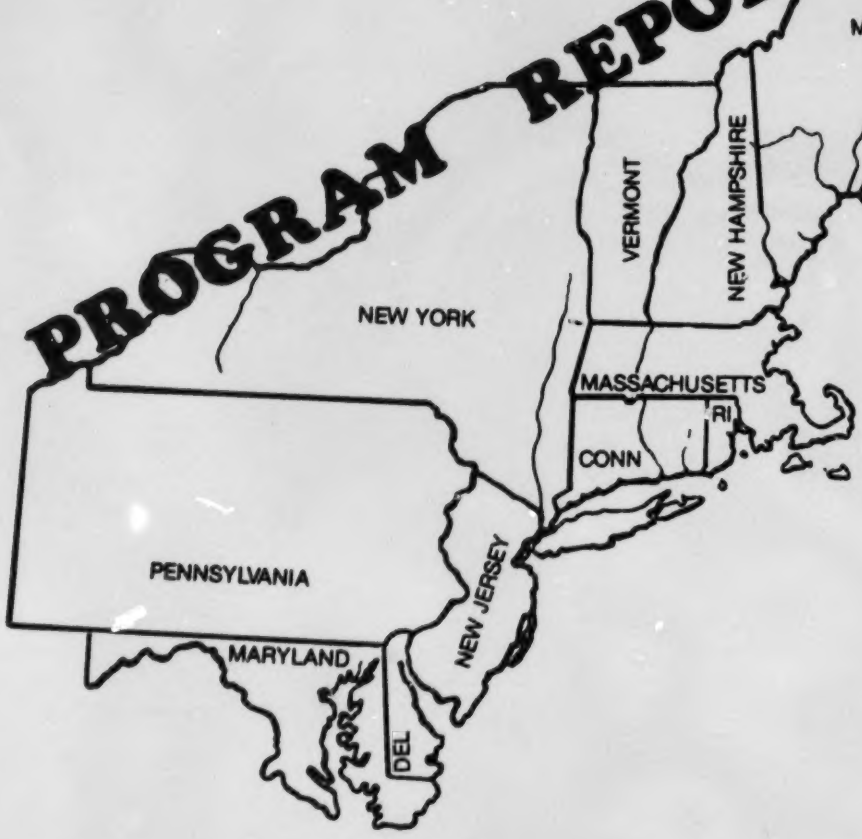

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Northeast Criterium II:

New Dimensions For Human Resource/Economic Development

CONFERENCE

February 25, and 26, 1980

Sheraton-Boston Prudential Center, Boston, MA

Sponsored by

U.S. Office of Education

and

National Association for Industry-Education Cooperation
NORTHEAST INDUSTRY-EDUCATION-LABOR ALLIANCE

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NORTHEAST CRITERIUM II:
NEW DIMENSIONS FOR HUMAN RESOURCE/ECONOMIC DEVELOPMENT

Proceedings of a Conference

Co-Sponsored by

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Office of Occupational Planning
Bureau of Occupational and Adult Education
Office of Education

Boston, Massachusetts
February 25, and 26, 1980

Edited by Stephen J. Sniegoski, Ph. D.

This Conference was an update on a conference on "Revitalizing the Northeast: Myths and Realities," Hartford, Connecticut, February, 1978.

This Conference took place under the auspices of the U.S. Office of Education but the proceedings came off the press after the Office's staff, programs, and functions were transferred to the U.S. Department of Education upon its establishment May 4, 1980. This document nonetheless contains valid information as a publication for the Department of Education, despite any seemingly current references in it to the Office of Education, its Bureaus, other organizational subdivisions, or activities.

The views presented by the Conference participants do not necessarily reflect the views of the U.S. Office of Education or the new Department of Education.

The material in this publication was prepared pursuant to seminar presentation approval by the board of directors of the National Association for Industry Education Cooperation. However, the points of view or opinions expressed do not necessarily represent policies or positions of the members or board of directors of the National Association for Industry Education Cooperation.

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FORWARD

NAIEC NORTHEAST CONFERENCE

Sheraton-Boston Hotel

Boston, Massachusetts

NORTHEAST CRITERIUM*

This is the second in a series of conferences to inform the Northeast of the need for unity. The first conference, Revitalizing the Northeast: Myths and Realities, was held in Hartford, Connecticut, and the next conference will be held in Maryland. There will be a number of follow-up seminars in each state. The goal of this conference, New Dimensions for Human Resource/Economic Development, is to better acquaint you with a structure for developing and impementing solutions that will enable us, to improve the Northeast economically.

The Northeast needs to establish a system of cooperation between the public and private sectors of the region to deal with the issues of interstate labor markets, human resources, improving relationships between education and economic development, long range economic integrity, and reducing the migration of talented and ambitious people from this region.

The Northeast's big advantage--its major appeal to industry--is its history of quality educational institutions. But industry must intervene in education and invest time, such as, providing the early educational grades with occupational information so that youth can choose an occupation that will be available in the region when they graduate from high school or college. This small investment could reduce the migration of many of our talented young from the Northeast.

On behalf of the National Assocation for Industry-Education Cooperation, U.S. Department of Education and the Northeast Industry-Education-Labor Alliance, we wish to thank our speakers for offering their valuable time and we congratulate you for becoming involved.

Norman T. Halls

NAIEC Northeast Consultant

*Criterium: A standard on which a judgment or decision may be based.

PART I:
STATEMENT OF PURPOSE

NORTHEAST CRITERIUM II

NEW DIMENSIONS FOR HUMAN RESOURCE/ECONOMIC DEVELOPMENT

STATEMENT OF PURPOSE

Economists traditionally have identified three factors of production: land, capital, and labor. At present in the Northeast, the number of workers engaged in manufacturing, traditionally the bulk of the Northeast labor force, is declining. The shift from manufacturing to service and information-processing activities and the increasing pace of technological change are making manpower the key ingredient to the Northeast's well-being and growth.

Human beings, according to a leading economist, "are the active agents who accumulate capital, exploit natural resources, build social, economic, and and political organizations, and carry forward national development." Thus expansion and improvement of the work force are the sine qua non of continued increases in production. Labor is the major beneficiary of, as well as the chief contributor to, prosperity and growth because the bulk of the national, as well as the Northeast's production is distributed in wages and salaries to individual workers.

In the past few years human resources have declined in the Northeast to an extent where it is at a point of crisis. The number of Americans under age 20 will soon soon fall below 30 percent of the population for the first time in history, resulting from the smaller rate of births in the '60s and '70s. The labor force will grow more slowly and decrease in experience as fewer younger workers seek jobs. The biggest decline in the labor force will be largely in unskilled young men age 16 through 24.

Within the big metropolitan areas, people will continue to move away from the central cities to the suburbs, leaving just 22.9 percent of the population living inside the cities, down from 27 percent today. The suburbs will continue to expand for the higher income segments of the population.

The big swing to the sun belt will continue, with vast numbers of people moving from the North and East to the South and West. Biggest gainers from this shift will be the Carolinas, California, Florida and Texas, which will each add at least 2.5 million people if present trends continue.

public policy. In geographic areas or occupational categories where workers are in short supply, measures have to be taken to overcome these shortages. And in areas or jobs characterized by an oversupply of workers, alternative opportunities may be needed. To the extent that any worker is "underemployed" in a job that does not fully utilize or develop his abilities, measures that would tap his potential would benefit not only the individual but also the whole economy.

C. To Analyze Productivity of the Work Force in its Various Economic Applications.

The level of total output and the standard of living it will support depend on the skills and abilities of the labor force. In order to realize the full potential of the northeast human resources and to ensure that each worker reaps a just reward for his labors, it is vital to understand the impact of education, vocational training, work experience and related factors on the productivity of workers.

D. To Study the Relation of Public Policy to the Northeast's Situation.

Government plays an important role in the labor market. Federal manpower programs aimed at increasing the skills and employment opportunities of individuals economically disadvantaged or lacking vocational preparation are policy tools. Others include labor-management relations, educational programs, and monetary and fiscal policies. The study of human resource development programs will provide guidelines for public and private policy that can help develop and utilize the labor force to solve related problems such as shift in labor supply.

E. To Increase the Efficiency of Labor Market Institutions in Utilizing Available Human Resources.

Many people are trapped in jobs for which they are unqualified. This is a result of discrimination or arbitrary credentialing for jobs based on educational attainment that may be unrelated to performance. Other institutional imperfections may also limit the best match between supply and demand.

PART II: INTRODUCTORY REMARKS

INTRODUCTORY REMARKS

Lewis G. Harriman, Jr.
Vice-President
Manufacturers and Traders Trust Company
Buffalo, New York

In considering human resources in the northeastern part of the United States, the National Association of Industry and Education Corporation has hundreds of members all over the country and is interested everywhere in making sure, as our president, Don Clark, says, that "the biggest game in town," education, serves the purpose for which it is designed.

We have today many supportive organizations, including vocational advisory councils, private industry councils, and manpower training programs. All of us have a role and to that extent we can join and work together and accept a full range of responsibilities regardless of which organization we belong to. The Industry Education Council is the name we have given the organization for simplification, but we really mean to include business in general, including industry, commerce and finance. We also mean labor, organized and unorganized, and we mean professions and civic leadership. We include everyone because the whole community has to care about what goes on in the schools and in the manpower training programs. Any other approach would give us what has happened in Pennsylvania, and in Massachusetts too, where there is a drawing apart of the business and education communities.

To help make my point, I want to call your attention to a bit of the history of the Northeast to encourage you to think about how we can succeed in handling our current problems.

For many years the economy of the world, the United States, and especially the Northeast was an agricultural economy. But after a couple of decades when the land in New England, which was never very fertile to start with, turned out to be far less productive than the western lands, there was a great exodus from New England and its economy began to shrivel. At that time this change was met by the imagination, initiative, resourcefulness and courage of the New England leadership in establishing the great mills for cotton and leather and other products so that this area became the most productive economy in the world and thrived for a number of years, even decades under the continuing resourcefulness and

For many years the economy of the world, the United States, and especially the Northeast was an agricultural economy. But after a couple of decades when the land in New England, which was never very fertile to start with, turned out to be far less productive than the western lands, there was a great exodus from New England and its economy began to shrivel. At that time this change was met by the imagination, initiative, resourcefulness and courage of the New England leadership in establishing the great mills for cotton and leather and other products so that this area became the most productive economy in the world and thrived for a number of years, even decades under the continuing resourcefulness and intelligence of the people of the area. And then, following the Second World War, because of the cheaper labor rates elsewhere in the country along with the now antiquated techniques and technology of the Northeast, businesses again left the Northeast for the South, the Southwest, and the Far West. And again there were hard times for the Northeast.

And how did the people of the region deal with this new problem? In fact no one knew exactly how to deal with it. But with the native intelligence of the area, based on the magnificent educational system in the Northeast, with the great shining lights like Harvard and M.I.T., the people managed to create an entirely new concept of economic life using a scientific basis and imaginative engineering and management techniques. The result was the growth of something new in the world. The great scientific-industrial development complex on Route 128 around Boston, and other similar projects through the region, followed that example. The end result was prosperity the likes of which had never been seen before to replace the dying economy of a few years earlier.

Once again the Northeast is facing economic problems of a similar magnitude. Part of the problem can be seen as resulting from the region's intense sensitivity to human needs. In dealing with these human difficulties and the attendant needs, we take care of people who cannot make it in the economy. We have a magnificent social welfare system. We take care of our senior citizens, and our unemployed youth. But unfortunately that social initiative has meant an immense social services cost, causing a terrible taxation level in the region, which has in effect stifled business initiative.

This past week the politicians were in New Hampshire campaigning, but none of them is going to tell the people that they advocate cutting the social welfare system because you cannot get elected in these United States by taking that stance. So are we now stuck with this current burden with no hope for any sort of resolution? No, but what is the answer? The answer is a better educational system.

We know from several movements that are, in their own small way, thriving in various parts of the country that we can do better by all students, from the youngest to those in their twenties. We know that the fallout from the educational system, the kids who cannot make it because they cannot communicate and calculate, is the backbone of our unemployed and unemployables. But we also know that we do not have to have, as we presently do have, twenty percent of our adult population functionally illiterate. Through manpower training programs we are trying to rectify that, but we must get at the problem in the school systems. We have to make sure that there are no more of our people falling through the cracks.

In the past there were numerous manual jobs for people such as digging up carrots or cleaning out barns, so if the person did not have much of an education, it did not really matter. Later in the mills in the Northeast there was plenty of routine work which the uneducated could perform. Nowadays it is much more difficult. More and more jobs, from entry level to professional, require higher and higher skills levels. But we know that it is possible to teach everyone to read and write. We also know that it is impossible to teach everyone mechanically, and that the cost of teaching is high because we still have this bad system of teaching young people in classrooms. We have not given enough attention to devising and spreading novel educational techniques that will teach everyone to read and write and develop other necessary skills.

There are a number of new educational programs on the horizon that show some promise in addressing the existent problems. One new educational program is called Individualized Instruction which is succeeding here and wherever else it is tried. There is also a program entitled Mastery of Learning. There is also a concept called Career Education which attempts to make education relevant to everyone at any level. Any of these movements, either alone or in combination, can work but they still need an Industry-Education-Labor Council in every community to direct them, making sure that the education is relevant to the needs of the job market.

Dr. Ann M. Martin
Associate Commissioner for Occupational Planning
U.S. Office of Education, Bureau of Occupation and Adult Education

Good morning Tom, Mr. Harriman and collegues and friends from the Northeast region. I'm happy to have the opportunity to be here today and to join in the sponsorship of this conference on new dimensions for human resources economic development with the National Association of Industry-Education Cooperation. This conference is coming at a very good time with the Administration's emphasis and increasing concern for productivity and balanced growth in meeting economic development concerns in this country. I'd like to say a few words about the mandates of our Office of Occupational Planning. Simply put there are three. The first is to enhance the provision for better and more reliable data and information for planning in vocational and occupational planning in adult education. Some of you in the states may be familiar with the Vocational Education Data System and the State Occupational Information Coordinating bodies that will develop occupational information systems. These are just two of the systems we are looking toward in connection with the provision of better data. The second mandate is to improve the planning process for vocational, occupational, and technical education at the local, state, and national level. In doing so, we see one of the major mechanisms will be through industry, education, and labor cooperation in local area action councils. And the third mandate is to provide leadership for developing education's role in the economic development process.

My first contact with NAIEC as a professional organization was about two and a half years ago when Don Clark was invited by our office to attend a meeting in Atlanta, Georgia. Our objective was to outline OE's role in structural and youth unemployment. That meeting has led to a harmonious and productive working relationship with this professional national organization, which is reflected by the co-sponsoring of today's conference. This conference is a follow-up of the conference of a year ago that was conducted by NAIEC in Hartford, Connecticut on revitalizing the Northeast which had a major emphasis on economic development concerns.

About the same time the conference was held in Hartford, Connecticut, we began to examine the role that vocational education must play to make the maximum contribution to the productive processes of this nation. We saw the primary thrust

of this initiative as one of bringing together individuals from education, other government agencies, economic development offices, the private sector, to plan for the next decade's workforce and related education and training needs. Sounds very simple, but somehow it was unheard of. Currently, our bureau, the Bureau of Occupational and Adult Education, has made a one-half million dollar grant to the American Vocational Association to look at the role of vocational education in the economic development process and to identify exemplary activities in this area. This will be an ongoing study for the next two and one-half years.

Our office, during the past year, has been sponsoring regional conferences, professional meetings, and follow-up workshops to spawn local, state, and regional planning efforts. The ultimate goal of these activities is to develop a process by which government, the private sector, and the community can provide greater input into education in order to enable education to assume the leadership role now essential for industrialization--some say reindustrialization--of the United States.

PART III: PRESENTATIONS

THE NORTHEASTERN ECONOMICS

Dr. James Howell, Sr.
Vice President
First National Bank of Boston
Northeast Economic Action Council

The departure point for discussion is without question, that the northeastern economy has fundamentally improved. We, in the First National Bank of Boston, once a month send a memorandum to our chairman, Dick Hill, which encompasses what we refer to in the bank as the "Red Book Call." This is done by regional banks all over the country as a means whereby memorandum and information is systematically collected by the twelve Federal Reserve Regional Banks on a regional economic conditions and then its put in a red book for the federal reserve board of governors and the market committee so that they can have some understanding as to the regional economics trends regarding monetary policy.

Last summer I wrote a memorandum to Dick Hill and I will share with you the sentence from it: "As the country begins to feel the effects of an economic slowdown, the New England economy can expect to have some support from a most unlikely sector, namely Central City Commercial Construction. A review of the regions cities, numerous major construction projects are currently underway and are coming on. In most cities, the larger construction projects are part of an ongoing and broader urban revitalizing. It was a very optimistic general memorandum and I somehow asked myself: "If things are fundamentally changed, we have not adjusted our attitudes to them; and we have not taken into account the opportunity that is within our grasp. As one who has been pessimistic for so long on the New England economy, I felt that sometimes it is important to admit that things have changed and indeed they have. Frankfurter put it right when he had to reverse himself in a lower court decision and said: "Things do not appear to me now as they appeared to me then." The economic situation in the North clearly does not appear to me now the way it appeared to me prior to the 1974-75 recession. There are essentially three reasons for this: One is a sharply expanded aid to the cities that has taken place, and I might say quite specifically, the leadership that Bob Edgar and Frank Quotam and Jim Oberstar have played in the northeast and the midwest with the Economic Advancement Coalition in getting the votes and watching the issues have proved to be extraordinarily effective. The second thing that is making us better is the issue of high technology industrial growth, and the third issue is the attitudinal shift among the elected officials toward growth.

Let us look at each of these very briefly. The key point is that it is not a bad rule of thumb to simply say that if New England cities are doing reasonably well, the New England economy is doing very well. After all, there are 26 large cities in our region. The city area uses up only 1 percent of the land area, but on that 1 percent of the land resides 29 percent of the region's population, roughly 3 million New Englanders. Over the past decade, the amount of economic assistance to cities has grown tremendously just for the 16 largest cities in Massachusetts. In the fiscal year 1968-1969 the figure was 40.1 million and in the fiscal year 1976-77 it had risen to 264 million dollars. Moreover, through the efforts of the Congressional Coalition, the adaptation of the housing variables, and the Community Development Block Program, something like 250 to 280 million dollars has been shifted to the Northeastern cities that would have otherwise leaked out into the sun-belt. Other efforts are clearly evident and they are there for all to see that we are managing our affairs of our older cities considerably better than we have ever done in any period of time in recent memory. We are getting more than our share of the urban development action grants. Tabulation of the grants by regions suggest that we, thus far, have been successful in securing about 39 percent of all the urban development action grants. These are all very important factors and if you add them all up, it is an injection of capital and resources into the cities that has stimulated in these cities a major downtown urban revitalization and commercial development boom that will simply not go away and is clearly a favorable factor to build on.

The second factor is one that you know well, and it is the growth of high technology industries. It is not an exaggeration to say that here in the Commonwealth over the past four or five years, of the 315 thousand new jobs that have been created, 101 thousand were in the manufacturing sector, and of those, probably 80 percent were directly, or indirectly, attributable to high technology. You know the story well, it is being told, it is favorable, it is an asset to the region, that I do not think that we fully appreciated a number of years ago.

The third factor that I have mentioned is the attitudinal shift of our elected officials. This is where I begin to build a transition to the opportunity that we have here in the north to fundamentally approve our opportunity to work together and to improve the role of education, business, and government. But let us talk first about the change in attitudes among elected officials. Two factors have

occurred over the past five or six years that have gone largely unnoticed, but they should not have. The first is the collapse in the private sector, or the ability to create jobs during the 1974-75 recession. Let me be specific. In our bank, we have a project that we refer to as the 100 large urban areas. Here we keep track of the development of the 100 largest urban areas of the country because that is really where the action is. This is the central cities plus the suburbs. One of the things that would interest us greatly, that would not surprise you, is the net contribution of the private sector to the total job increase. Good East Texas horse sense will tell you that 2/3 to 3/4 of all the jobs in a local economy, or in a national economy, ought to come from an increase in the private sector. Let us look at an experience that immediately preceeds the 1974-75 recession, which was a deep one. In the 35 new south urban areas between the periods of 1966-69, the private sector contributed 77 percent of all the jobs. During the period of 1969-72 the private sector's contribution was 79 percent and even as the economy slipped into a major recession nationally the private sector contributed 63 percent. Let us look at the 30 largest urban areas in the nine northeastern states. During the first period 76 percent of the jobs came from the private sector. Again, good common horse sense, 2/3 to 3/4 of the jobs come from the growth of the private sector. Let us look at those 30 largest areas in the nine northeastern states during the middle period, 1969-72. During that period the net contribution of the private sector fell to 22 percent and as the economy slipped into a national recession from 1972-75, in the 30 largest urban areas in the north the net contribution of the private sector in job increases was zero. In the aggragate, whatever job increases took place in the 30 largest urban areas in the nine northeastern states came solely as an expansion of the government sector. Now these are statistics that are not up for debate, they are realities. The view that came out of that experience made it very clear to elected officials at all levels of government that there are not enough CETA jobs to go around. Whatever policies you pursue in your future as an elected official, create private sector jobs.

The second factor that has had a major impact on the attitudes of elected officials is that the voters in the northeast have come to realize that there are significant regional disparities in living costs and taxes. My sister lives in East Texas, but she is an expert on all matters east of the Mississippi. The fact that she has never come east of the Mississippi is trival and does not discourage her from calling me periodically and giving me advice. I'm sure some of you have sisters

like that. But just to demonstrate the living costs and taxes, take per capita income in Massachusetts and Texas. Per capita income in Massachusetts was $8,063 last year and in Texas it was $7697. Texas was 5 per cent less than Massachusetts. Now, let us adjust those living costs and taxes and see what one has to spend for a real standard of living. In Massachusetts it was 54.84 per person and in Texas 67.71, or in other words, Texas was 23 per cent better off. Now my key point is not the difference per se but the impact. The impact on the people in the northeast is that we should increasingly preoccupy ourselves with economic policies that improve the standard of living in a region, and that means expanding investment opportunity and job opportunity.

I have argued that something fundamentally has changed here in the north. I think the economy has gotten better through high technology and injections of federal funds and partnerships in cities and I think attitudes have improved. How will we transform these positive developments in the late 1970s into fundamental strengths that will carry use into the 1980's? That is where the problem comes from. The real problem rests on two factors of reconciling, as an economist would say, simultaneously two factors. One is to identify what is important to concentrate on, and then, secondly, to do it with a full partnership with the private sector and government. It is often said, and it is very true, that a small improvement in a major component makes more difference than a large improvement in a minor component. That is simply saying, know what is important and where is the greatest payoff.

The key issue before us now is labor training. There is no issue of greater importance in our economy today. There is a critical shortage of skilled labor, blue-collar skilled labor, engineers, all over the United States and all over Western Europe. The region that solves the problem in skilled labor and labor training in the 1980's is the region that is going to have the most organized and orderly growth. There is nothing that is more of a major component, of which we ought to concentrate than the issue of training.

Now the second factor for success will be the establishment of a partnership between business and labor. Right now educational training in the Commonwealth and northern states is in the hands of educators, and you know how dangerous

that can be. We must get business to talk to labor and to educators, but those are the successes of tomorrow. But again, a small improvement in a major component makes a greater difference than a large improvement in a minor one--and that is labor training.

THE NEGLECTED RESOURCE: USE OF EMPLOYMENT AND TRAINING PROGRAMS IN ECONOMIC DEVELOPMENT

Congressman Robert W. Edgar

My name is Bob Edgar and I am a congressman from the suburban Philadelphia area and I was elected a congressman by accident. My background and training is that of a United Methodist minister and I was campus minister at Drexel University from 1971 to 1974. Some things happened in 1973 which startled me, and I am sure they startled you as well. One was the lining up at gas stations and the beginning of the 1973 energy crisis. Another was the war in the Middle East between Israel and Egypt. But probably most profound was that happening in October or November in 1973 when Archibald Cox was fired by Richard Nixon for asking for some Watergate related tapes. I came home one day and looked the word "Democrat" up in the telephone book and told my wife that I was going to find out who the Democrats were going to run for Congress from my Congressional district. My wife laughed. She laughed because the last time a Democrat had won any county-wide election in my county was in 1858, before the Civil War. The last Democrat to have run for congress in 1972 lost by 42 thousand votes. There are 100 thousand registered republicans and 70 thousand democrats in my congressional district but I called the Democrats and they said they were going to look around for a lawyer who needed some publicity and expected him to lose. I put together a coalition of lots of people, none of whom knew anything about politics, won the Democratic primary, and won the general election by about 56% of the vote. I was able to go to Washington in January in 1975 with what I thought were really good political credentials no experience at all. I had never been inside the House of Representatives. I had never taken a political science course. I had no knowledge of how the system of government works. In the last five years and two months, I have had an opportunity to observe the system, not only as a member of the Public Works and Transportation Committee, but I have served on specialty committees dealing with surface transportation, economic development and buildings and grounds and veterans' affairs.

I am also a member of a new group called the Northeast Midwest Congressional Coalition, which is a group of 213 House members, from Maine to Maryland, and across to Minnesota and Wisconsin. We have two agenda items. The first is to educate ourselves as to what are the problems in our region: in urban policy, defense

policy, rural policy, transportation policy. What are the things that are happening to us? We formed in September 1976 under the leadership of Mike Harrington and others, and we have begun to educate ourselves as to what is really happening rather than simply looking at some of the mythology. For example, we thought our total problem in our region back in 1976 was related to two events: one was the out migration of defense installations, and the second was the out migration of industry. Well, through a process of education, we have learned a lot about ourselves and a lot about the statistical information, and the process of how industry and business decide to stay and locate, renovate, and reconstruct in a particular area and what in fact is happening with suburban and transportation policies. And a lot of the mythology that we thought was happening to us has been refuted by by our research team. The second aspect of our coalition is not education but what we call guerilla warfare. It is that ability to take quite sizable piece of information and facts, and get them into the hands of congressmen and senators who serve on appropriate committees, with the objective being to bring about changes in federal formulas, and federal policies, and federal initiatives. Our first goal is to try to get the federal government to stop doing bad things to our region and also to assist the federal government in addressing a whole host of agenda items that could be helpful to our areas.

First, let me share quickly with you three things that I have found which I think can be helpful to your discussion. The first thing that I have discovered is that the system of government that we have in Washington is more human than I thought. We do not elect the brightest and best to serve in Washington; we elect those who get more than half of their constituents to send them there. We lock 435 people in one room, 100 in another, and to one individual we give the White House down on Pennsylvania Avenue. But the Jimmy Carters, the Gerald Fords, the Ted Kennedys, the Dick Sweitzers, the Senator Bakers, the John Heinzs, the Bob Edgars, the Tip O'Neills, are all human beings with very human skills, and we put those human beings in a setting in Washington that is very difficult.

The second lesson is this complexity. In a course of a two-year period there are some 20 thousand bills introduced into the House, and some 14 thousand pieces of legislation introduced in the Senate. If you are interested in education

or training legislative initiatives, they are in a specific cubby-hole--one of the 185 committees and sub-committees of the House of Representatives. These human beings that we elect are not experts on all issues, in fact, in the complicated setting in which they work, they become very much specialists in particular areas, and generalists in all other areas. So one of the first things you learn is that in that complicated setting, you, in many instances, can be the teacher. You, in many instances, can have a great impact because you can teach members of Congress and the Senate, and even presidents of the United States. The system of government we have is not like a rabbit that shifts gears very quickly. It is more like a big lumbering turtle that you keep banging on the back of the shell trying to get it to move in one direction or the other. Which brings me to my focal point for this conference this day, and that is, if the system of government is human, and complicated, and doesn't work very well unless you get involved in it, then it means that all of us have to learn better skills in working together.

I listed a few words which I hope will be the essence of your conference. One word is "leveraging." In light of the federal deficit of 39 billion dollars this year and 16 billion dollars next year, the question is how do you take limited federal sources and use them better, an agenda item that is going to be with us for the next five or ten years. How do you take and leverage federal programs more effectively, and how do you take and leverage state and local programs more effectively? I think if any of you have followed the progress of CETA over the past few years, the development of private industry councils, and other kinds of arrangements where labor and management have started to talk together, will recognize that some attempts have been made to leverage a federal program to make it do better things for local communities. The South and the West have done a better job in figuring out how to leverage better their ability to put education and training together.

There are five common elements which distinguish the successful opportunities found in the South. The first is that there is a lot more flexibility. In fact, the complete flexibility given to those responsible for negotiating training arrangements with private industry is real in the South, but not so real in the communities which you represent. Maybe flexibility is the second word that we ought to lay against the word "leveraging."

Secondly, in the South, the firm and active commitment of governors and other key state officials to the programs that relate to education and training is there. It is not a secondary or back shelf item, it is a commitment. Third, there is a large commitment of state and local funds for such efforts, in addition to any federal resources, such as CETA money. Almost all the customized training programs currently in operation are funded largely by state and local funds. Again the South has not waited for the federal government to act with a federal incentive or a federal program. The third word that you might like to lay against the word leveraging and the word flexibility is the word targeting. One of the things that our coalition is aware of is that we are going to have to learn to target limited federal resources better. We were responsible for targeted tax credit. We were also responsible for a rehabilitation tax credit, trying to say to businesses and industries "if you stay and renovate, and reconstruct in an older location, in an older industrial city, we will give you some of the same tax breaks that we give to other companies to move out to a rural or to a farm area to buy a piece of land and put up a new facility."

The fourth thing that the southern communities have been more successful with is the noticeable absence of strings attached to customized training agreements with industries. These agreements do not carry: (1) minimum job creation requirements, (2) excessive wage requirements, (3) union negotiating approval clauses, and (4) definition of eligibility for participation in the programs.

The fifth area that the southerners have been helpful and successful in is that they have promoted as a component of the total development a packaged idea made available as a free resource to reduce start-up labor costs of new and expanding businesses that wish to take advantage of them and backed up by an energetic outreach effort to new and existing firms. We did a major study trying to look at the issues relating to education and training. If you read through that study you will pick up some of the flavor of what we have learned in our research into how the South has, in fact, done well in putting together education and training programs that have become effective in a number of areas. That is not to say that there are not some areas in the Northeast that are not doing a good job. In fact, we have successful programs in Minnesota, Illinois, Iowa, Michigan, New Jersey, and some here in Massachusetts and Vermont. These are case studies where there has been effective leveraging between business and industry and the public sector

in order to use more effectively the limited resources. But we have discovered that we have got some problems in terms of attitude in our area that have to be addressed. We have some communication skills that also have to be addressed. Just as I have described in the Congressional setting, I must admit to you frankly that Congressmen do not communicate very well with each other, and if they do not communicate very well with each other, they are a disaster at communicating with their state senators, state representatives, and governors.

Very few of the states in our region have an effective marriage relationship with the federal government. Very few of the states in the 18 states of our coalition do an effective job of teaching Congressmen how certain policies might be effective to them and very few Congressmen are successful in teaching state representatives and state senators how to be effective. Let me give you a couple of illustrations. In Pennsylvania in 1978, we passed a major surface transportation act that provided major funding for public transit and for highway development. The State of Pennsylvania received massive amounts of that money. There was absolutely no communication between the five House Members from Pennsylvania who serve on the Public Works and Transportation Committee and the State Transportation Subcommittee in the House of Representatives in Harrisburg, or the Senate Transportation Committee. And there was no communication between the Department of Transportation in Harrisburg and the federal government. Essentially, communication skills have to be developed on all sides.

Dr. Howell mentioned the need to get some of the educators and business leaders talking. I would like to just take partial exception to what he said. Nothing is going to happen in the communion between the educators, labor people, business leaders, and politicians unless we understand and know a little more about each other and about the problems that each of us face. For instance, in the area of business, there is not just business out there, there are all varieties of businesses: mom and pop operations, the middle-size businesses, and the large-size businesses. Most large businesses have the financial resources to send people to conferences to sit around the tables and talk about the issues. Some medium-sized businesses are able to do some of that, too. But mom and pop businesses and new entrepreneurs do not have time to come to a conference and discuss in an open forum the kind of training needs they have, and they are not going to take the opportunity to respond to a questionnaire because they are working on a day-to-day basis to survive. What may help are ways in which we can all learn together

how to communicate better, not just in conferences, but perhaps on one to one experiences where business leaders would come and visit you in your settings, and you would go and visit them in their settings so as to share common goals and common ideas.

The other day I had the opportunity to go to the city of Chester which is in my Congressional district. Chester has high levels of unemployment, a catastrophical political situation that simply has used and abused people for a long time. Chester is on the edge of the Delaware River, and if you were to drive through the city, you would not view the prospect of living there as very appealing; yet there are new industries moving and percolating in the city of Chester. What makes Chester attractive to business? Well, better leveraging, better targeting, with a new working grant that has attracted the Southeast National Bank to come in to develop some jobs. We have begun to work on some projects in and around the political forces which are negative.

I stumbled across a business that was making fiber glass blades for one of the large private aircraft industries in the nation. Here was a setup with 15 employees working on blade contracts worth several million dollars. They were wrapping these little fiber glass patterns around pre-shaped forms and developing a very profitable little business in the heart of a distressed city, in the heart of an area where there was high structural unemployment, and yet this particular businessman, who needed on an annual basis three to five new employees to come in and help his business to expand growth, could not find that personnel because he did not personally have the time to teach or train basic skills. This means that the education community, the county council community, the power offices and other offices are going to have to work together to provide that training. I do not think we are going to do it well because somehow we get isolated in our little boxes and we do not communicate.

Well, I could go on and on but let me just conclude with this comment: Federal government is a human, complicated institution that I think in the 80's and 90's is going to be marked by fewer dollars and more interest on the part of elected officials in leveraging and targeting their funds on specific issues and it is going to need your help to become more flexible. It is going to need your help to stop lawyers from writing all of the legislation based on legal needs, and to

teach federal and state and local officials that better flexibility between the education community, the business community, the labor community, and the public sector community is needed. I hope individual states will begin doing a better job of setting state job agendas as a result of conferences like this. We hope that we can help by sharing information, showing how at the state and local level we can do a better job of teaching, training, retraining, reeducating and refocusing federal, state, and local laws.

* * *

QUESTION AND ANSWER PERIOD

You are right in saying that we put federal guidelines and federal policies in place without adequately funding those particular guide lines. A blatant example of that is Section 504 funding which mandates accessibility for the elderly and the handicapped in all sections of our society but fails to provide the funds to do this, even cutting existing education and transportation funds. The real problem is that when the federal government wants to put money in it also wants to keep strings tied to make sure the federal policy initiatives are mandated. We have not been too successful in being free enough to vote for money and then to let the states utilize those funds. There are some rare exceptions: revenue sharing, community development funds, targeted counter-cyclical revenue sharing funds, and other programs that come back on a formal basis to communities for their own initiatives. Revenue sharing, by the way, is up for reauthorization this year and there is some question as to whether or not it will be reauthorized.

I think we have got to have a better marriage between the people in Washington who are making federal policy and the local level, not in terms of guide lines, but in terms of trying to address real needs. Jim Howell mentioned talking together. A lot of times we ought to move on to the next step which is having action with one another--actually seeing some of the results of federal dollars at work. What I would like to see develop is not only more freedom to use money at the local level more creatively but also the publicizing of techniques of successful local demonstration projects.

Let me give you just a few words about the census. Not only has our region lost population, but there are going to be very serious changes involving patterns with the Congress as a result of the census. We are going to lose 14 congressmen in the

northern tier states 13 come out of the 18 states of our coalition. Where do they go? Florida picks up 4, Texas picks up 2, California picks up 2, while New York loses 4 congressmen and Pennsylvania loses 2 congressmen. Now that does not sound like a very serious problem in terms of legislative initiatives and concerns but it becomes more serious when you think about some of the ideological splits that we have had. For example in 1977, emergency fuel assistance passed by one vote when Tip O'Neill broke a tie.

Most of the human service programs, the education programs, do not pass by 300 votes to 10 votes, or 400 votes to 10 votes . They pass by 20 to 30 votes. A shift of 14 house members to the Southand West is a shift of 28 votes because it means fourteen fewer votes from our region and fourteen additional votes from the South and West. That is not to say that the people from the South and the West will be voting ultra-conservative patterns or against any help for our region of the country or against education or training measures, because many of the leaders in the education and training fields come from the South and the West. But the likelihood is difficult to marshal the votes behind programs that benefit our region.

Response to a question regarding the migration of industry from the Northeast. There are a number of factors for industry leaving the Northeast for the South and West: higher labor standards, higher wage costs, higher unemployment compensation costs, higher land costs, higher energy costs. But we have also discovered that we do not have the large out migration of industry that we thought we had. I know in Delaware County, where I happen to live, which is suburban Philadelphia, we have very high taxes, very high labor costs, very high land costs, very high energy costs, and yet new businesses and new institutions and groups are coming to that community, and are able to make a profit even under those circumstances, because the quality of life issues have been addressed by some of the chamber and labor groups, and there has been a willingness to attract and magnetize it.

I think the South is going to have to address the labor union situation as the Northeast and Midwest have addressed it in the past. I don't think that in the future, at least in the next twenty years, you are going to see the labor unions ignoring the South. In fact, I think you'll see more and more of the Southern industries matching our labor costs, whether they are union or non-union, and I think you are going to see some of the same infrastructure problems in the South as you see in the Northeast and Midwest. In five or ten years, it may not be as

attractive to simply locate in some Southern community. Particularly with the energy crisis, I think we have assets in our metropolitan area in terms of mobility that some of the Southern communities do not have.

Response to question on the federal role in education. There's a lot of discussion as to what the federal role is in education. There's a lot of controversy over the development of the Department of Education, and I was one of the Congressmen who supported the construction of the Department of Education, and I hope all of you won't boo too loudly at that. Let me just give you some of my reasons. My feeling is that the whole Congress of the United States does not have a good strategy towards education. We don't have a good strategy towards a lot of things, and the reason for that goes back to my earlier comments about Congress being a human institution. The Congress of the United States is like this room full of people. We don't have a mind set that is of one direction; we only move when one more than half of us puts our voting card into a particular computer and votes yes or no on an issue. Now, we decided to create the Department of Education, because some of us felt that education was getting short-cut being sandwiched between Welfare and Health. Now we hope that the federal government can make a contribution, targeted because of limited resources, to improving some of the deteriorating educational conditions around the country.

There will continue to be state and local responsibility in education. State and local government will have to fund a large part, 90% of the funding of education. But I, for one, am frustrated at spending a hundred and thirty five or forty billion dollars on defense, and only a few billion dollars on education. And I for one, am concerned about spending more on highway construction than on education. I think we ought to figure out ways to get our educational institutions moving. We've got to be more creative. We've go to be more complete. Education has got to become more lifetime oriented, and I think the federal government has to play a role in that. One more question?

Response to a question on lobbying in Congress I think this organization is a good one, but I think it is like a lot of other organizations where its voice is heard among the people who want to hear it and not so much heard in the general halls of Congress. I think we all need to learn a little better guerilla warfare skills on how to lobby Congressmen and how to begin to teach Congressmen.

I think there are five ways to lobby a Congressman and I think the first and most appropriate way is by eye contact, and you ought to at least once a year--and your organization ought to do it twice a year--engage in an individual confrontation with your member of the House of Representatives and with your Senators. And you ought to do it assuming that they know nothing about the issue that you are interested in, in terms of education and training, and you ought to do it assuming that they may not even know there is a bill before the Congress that deals with any of the concerns that you have. I would take a half hour with them. I would begin with a verbal briefing, and I would ask them at the end of the half hour to provide me with the names of their staff and the key contact person on the issues that I am concerned about.

Second thing that I would do is to make sure that once a year I meet with that key staff person and I would put that key staff person on my mailing list, sending him information if you are in a program or demonstration project.

So, the best way to lobby a congressman is by direct personal contact; the second best is to meet with his staff; third best is with a telephone conversation; and it is fourth best to write a letter--personal letters, not form letters; and fifth and sixth best are form postcards and form letters. We do not weigh our mail or measure our mail we read it. And I think it is important for a group like yours, if you want to have an impact, to do your homework and confront the Congressmen and Senators on a one to one basis. But we are like tops spinning, and you have got to get us to stop long enough and focus on your issue before we are spinning some place else. Someone described being a Congressman as being a television set with somebody constantly changing the channels.

Now, let me show you just how that works. I use a voting card, a little plastic thing with my picture and social security number on it. Okay, now I carry that in my wallet. Eight to nine hundred times a year I have got to cast votes--ten of those times during the year I am casting votes on issues that affect your organization. I am also deciding whether or not to build B-1 bombers or neutron bombs, what level of transit subsidy we should get, whether or not the sugar industry should have a supplement, whether or not we should give aid to Israel or Egypt, how we should respond to economic assistance to Pakistan, what are we going to do about Afghanistan,

and how we are going to handle inflation and energy. And in the midst of all of that, I am specializing in economic development, public transit, veterans' issues and Northeast and Midwest Coalition concerns. In the course of one day I am running from a vote on a critical issue that deals with transportation, to a critical vote on defense. Then I may be running over to the House floor asking someone around me, "What is this vote we are going to deal with?" and that someone whispers in my ear as I run up to take the vote, "Oh, this is an issue that deals with setting up private industry councils," or "This is a vote that deals with CETA" or "This is a vote that deals with Manpower Training." Thus, I have fifteen minutes to make a judgment that may have great impact on you as an individual. And that is why I say, if you do some teaching first, and if you do some general education first, not only will you probably find some advocates you did not think you had, but you begin to get some responses.

And, one final word, do not neglect elected officials who constantly vote against your positions. I would like to suggest to you that by visiting with your elected official you make a contribution to good government. And, maybe, just maybe, that person sometime will throw a vote in your direction because you have convinced him of the rightness of that position. Thanks a lot.

EDUCATION INSTRUCTION: FOR THE STUDENT OR FOR INDUSTRY

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As an example of education and industry communication, or lack of it, let me relate to you a very recent experience. In my community, which lies within a job market that covers Vermont and New Hampshire, in what is called the Connecticut Valley, the major employers are producers of capital goods, usually heavy type machinery. Electronics is used in a variety of ways by the manufacturers and by the area businesses. In our community of some 16,000 people we are planning the construction and equipping of a vocational skills center to serve a school district somewhat more than this. The skills center is anticipated to cost us five and a half million dollars, perhaps even six. Actually, it will be the largest skills center of the numbers of centers that are being constructed in the state of New Hampshire.

We have a general committee, a vocational committee, of which I was a member, and we have many craft committees to establish what these skill requirements and the equipment requirements are to be. I was a member of one of those craft committees as well. These craft committees make recommendations not only for equipment but for curricula, as does the general committee. And they are a hard-working conscientious, dedicated group of people. There was, however, in the total curricula, the lack of an electronics program or an electronics course. The reason given was that surveys did not reveal that there was a need for such a course, that jobs could not be had immediately upon graduation from high school. Therefore, there was no justification for having this type of program. Employed in this same area, we had several hundred people that had electronics as their prerequisite or as a requirement within their profession and their job. These people included electronic draftsmen, design engineers, electronic technicians, laboratory assistants, numerical control servicemen, electric maintenance men, computer designers, computer repairman, electric assemblers, and electronic inspectors. This type of action by the committee could easily be viewed by any employer in the area as a lack of interest to meet the needs of employment in technical services, especially in this area. The lesson here is that we should not design out, common sense. As we work, we must use common sense. And, as somebody once told me, and you probably heard it many, many times, it's probably

the most uncommon product there is. Simply because we get locked in, we're preconditioned to a behavorial pattern and we feel we must follow those guide rules and we don't take that step backwards and take a look at what we are actually doing and where we are actually going.

I think that common sense must prevail when we interface between the political subdivisions, the job market, and the educational system. This is what I understand this group and this program is all about. We cannot supply the needed skills to labor, and the larger New England area, if the several states impose vocational educational policies to only supply training for local consumption. We do not find state-supported university systems required to adjust curriculums and their enrollments to meet the in-state needs of the labor supply, the professional labor supply that they produce. Yet, there are many technical institutions within our states that are required to do exactly that to justify their being, and justify their funding on the basis of how many jobs they are able to fulfill within their immediate locale. How parochial can we become. We must provide our students with the skills and the freedom to seek the job opportunities wherever they wish, and for the jobs that will support their chosen lifestyle. We must provide our students with work experiences that will help them select careers, and provide opportunities to explore careers. College bound students need vocational education, for example, to select and promote their own career choices. How much more meaningful and how easier the decision making could be on that college bound student. They need it. Yet, is this the attitude in many vocational school systems? Is it the attitude in many of our state boards of educations and commissioners? No! Somehow we feel that vocational education is not fitting for college bound students. Yet, in the university systems we'll provide laboratories for doctors and professionals. We provide them with hands-on training at a tremendous investment in facilities and supplies. This is vocational training, but it is good training because it is on a professional level, and somehow at the lower level it becomes clouded. We must recognize that secondary vocational school skills development is a step in career development that progresses through post-secondary vocational skill development on the way to the professional skill development in our universities and colleges. The articulation of our educational system is lacking. We frequently believe that we should only have vocational education at one school level to avoid duplication. Do we have this perspective when we talk about an English course, or a math course? Do we say it is duplication because we offer that math program

at the high school level, at the junior college level, and at the four year university level? No. We recognize that as a natural progression of skills. Why is not that attitude within our skill development we call our vocational training and education?

We must recognize also the need for a skill development delivery system that will permit re-entry into that system to acquire needed advance training, retraining and promotion of our own skill development, cross-training at any time during a person's work career. Most of our schools are not prepared to accept people back into the school system. And I'm not closing my eyes to the many extensions programs, the many adult programs. I'm saying, not withstanding that, we come up lacking because our major systems, where our major investments are, are not there and available. We become a different individual as we grow in age.

We feel we're well educated but 42% of the people 25 years and older have not graduated from high school. Yet these people for the most part are in our work force and many are accomplished technicians, valuable people within our business and communities. How do we promote their skill development if a system is not prepared and equipped to receive them. We must recognize that advisory committees operate best when challenged by sincerity. And, advice sought, is advice given, and should be advice taken.

I have served on many advisory committees. Some were good but a lot were not so good. They were not good because when you started serving on them you found that they were a convenience, that they met a requirement, but please, don't rock the boat. Please don't give me a suggestion that I must follow. Please do not interfere with our administration, with our curriculum. We know best. But why was that advisory committee or council formulated to begin with, if it wasn't for input. In the business community, the business representative has his own job problem. He is willing to give up his time, come to these committees, serve on these committees, provide advice and experience, but he recognizes very quickly whether he is just slipping, or standing still and wasting his time. He becomes immediately discouraged and goes back into his business community because that is where he has to work. He has a lot of things that have to be done and the higher up the ladder you go, the more difficult it is to receive that type of input, simply because of the demand that the job has on the individual. The next time around it is a lot more difficult to try to obtain that cooperation and that help. It does irreparable damage to the credibility of the entire program.

If we are to interface and if this is to be a partnership, then let's understand each other. I think we must recognize that business needs to be productive to survive. We all understand that productivity is a function of management, labor and capital combined, and they all need to be rewarded. This is the part many of us do not understand. We are willing to accept the economics of the first, and not the reality of the second. We are competing not only in a regional market but we are also competing in a national market. The time is here and now when employment on the very local level is affected by the foreign imports. My city and area are affected. We have had to cope with this locally. It is the shortening of communications, and it's the broadening of markets. Much has been addressed to the movement of jobs and industry from the northern tier states to the southern states. I am experiencing that as well. One division of a corporation in our area is moving to no other than South Carolina, and one of my vice presidents told me there are many reasons why. One of the things that impressed him the most was the cooperative attitude of the educational system to provide the skills. "You tell us what you want; you tell us what you need; and you will have them when you need them." That is how simple and direct it was. The reason why this division was moving was because there was a lack of skills in our area. And we are an area you're probably not familiar with, but in terms of machine tool manufacturing it is world renowned. As a matter of fact, it's been dubbed "Precision Valley."

Today the business community recognizes the necessity for trained personnel. Most companies have invested training, in-training facilities, and provide training programs of their own. In addition, many companies offer reimbursements for tuition costs and books to employees that take company approved courses and programs. These courses and programs are offered to community colleges, to correspondence courses, to university extension programs, and other areas. Our own community has a multi-million dollar training investment and facilities. As an aside, this training investment, incidentally, is what we consider overhead. In other words, we do not produce parts that can be sold and get an immediate return. Somebody else has to actually earn that profit for the company. Wherein, then, do we provide our service that would require such an investment and have a return to the company. It's the service that we're able to provide through our training capabilities to our people, and, in particular, to our customers. When it is time to order additional equipment, they will look favorably on our equipment because it has been more productive-productive more in terms of unit capacity than in terms of overall operation.

Management today is an enlightened management when it comes to training. At one time they were not. They viewed training as much a necessity to high productivity and production as the materials they used for the cutting tools or the work handling devices that they employed. The disappointments come when job applicants apply for job positions lacking basic skills in writing, computation, communication, or when they apply with attitudes of high pay with low performance, or when they lack personal attitudes towards motivation and initiative. Lack of skills can become overcome by an attitude toward a willingness to learn and a willingness to work, and these attitudes are teachable. Jobs can be broadly classified into the primary jobs and dependent jobs. The primary jobs are those that provide direct income benefits, and they would include construction jobs, manufacturing, transportation, and agriculture. The dependent jobs would be service related jobs, such as hospital workers, retailers, teachers, government workers, and professional services. These are dependent upon the needs of the community it services. When a business leaves an area, and it is a primary job area, then eventually the dependent jobs also decrease. This means a loss of tax base which in turn means a loss of income and budgetary allocations towards education. This, in turn, means cutbacks in training facilities, at a time when the people need them most, for cross training and retraining into new jobs. So when the local tax base is reduced by a departing business, it really has a high economic impact. It is better for us to supply the training needs that they need on the front end than to try to react to something after they have gone. I think at times a community or state may look at itself quite protectively and feelthat it should not, and cannot not support skills training that is not for local consumption. And I feel that in today's labor market--a lot of which is stable and stationary, there is an awful lot of mobility and fludity. People go from one area to another quite readily. They are able to pick up and relocate over a weekend. The best skilled worker is one that likes his work, takes pride in what he does, is happy, and is able to afford and select his own life style. Educational instruction is first for the student, but it must be something he wants and will be happy doing. The skilled task the student must master should be what is needed in the world of work, for that is where he auctions off his skills. There are no bids or bidding for skills not wanted, or not needed. The person or business who needs training is already paying for it. The attitudes are trainable and changeable that we have. Let us work together to change attitudes to meet our new challenges.

Dr. Gaylor Northorp
Center for Environment and Man
Use of ES2-202 Data in Detailed Employment Projections and Analyses

If we picture a graphic, we have nine of the northeastern states, the six New England States, New Jersey, New York, and Pennsylvania. At the top, in a single graph here, we have Vermont, New Hampshire, Rhode Island and Maine. As you can see, there is some indication of a continuing growth beginning in 1960. And, as we have calculated at a low, medium, and high rate extending through the year 2020 under the high conditions, Vermont might actually double in population over the sixty year period. New Hampshire also shows growth, Rhode Island has peaked and already gone down, and even under what we consider favorable conditions, is not likely to increase population much. Maine also may show reasonable population growth, although under our pessimistic projections, not very much. The place where the real action seems to take place is Pennsylvania, Connecticut, Massachusetts, New York, and New Jersey. This is where the bulk of the area's population lives. Our lowest estimate is that Connecticut would stand essentially constant at about three million people. Massachusetts might be constant at a little less than six million. Pennsylvania could actually lose some of its twelve million people. New York is already losing population. Our estimate is that New York will have lost about 3 percent of its population between 1970 and 1980. New Jersey could show a little growth or could be constant.

If we put all this together for nine states that started the decade of the 70's with 49 million people, then under the more pessimistic situation the area would actually be losing population; under our middle projection, a reasonable growth to a little over about 53 million people, and then under the high, the figure rolls up to about 59 million. We don't know what the real answers are, but the census bureau will tell us what is really out there in 1980.

Another source of information is labor market analysis and projection. This methodology is called lab math. It is a series of computer programs that converts Employment Security 202 data into various types of analysis. ES2-202 data is the information employers provide to the state department of labor every quarter. Most everyone represented here is included in a ES2-202 report at least four times a year. All employers provide information on the average number of employees working during the quarter, including what was paid to them, and what was paid into the unemployment

fund for that particular organization. It is reported by the four digits SIC (Standard Industrial Classification) code that characterizes that particular activity. Now, this is done for everything, not just for manufacturing.

We have done some work for the Hampden County Manpower Consortium, with the kind cooperation of the Division of Employment Security in Massachusetts. We have processed ES2-202 data from 1960 to 1977 to provide the people in Hampden County, which surrounds the Springfield, Chicopee, and Holyoke area in southwestern Massachusetts, with information on the characteristic of employment. This data is available in all states. It is used to one degree or another by the Department of Labor, and possibly by the Department of Education.

What this does is show what has been going on in each three digit SIC in the subregion and inner region that we are concerned with. Now, the employers submit their information by four digit SIC. This data is converted into time series at the three digit level--in other words we aggregate somewhat and achieve a certain smoothing process by so doing. We also take the average value for the year even though four sets of reports a year are available. And there is some importance to the smoothing process that is applied as we process the data. Generally, the data is available for a year for each subregion in the state, which in Massachusetts consists of 351 towns. This has to be put into a time series for each three digit SIC in each subregion and processed and aggregated. We first take the data. Then we form the time series so that we can look and identify SIC's and subregions that have growth, decline and stability over the period of interest. Our computer program then provides a time history analysis and a set of projections for all SIC's in all subregions which we then aggregate to give information for the total region. Using a Department of Labor matrix, we convert employment to occupational skills again for all of the SIC's. We can do this in each subregion as well as the total region. In addition to this, we have developed a separate program that starts with this data and provides a detailed computer automated analysis of what is going on in each SIC region. So, if you want to know what is going on in a particular industry, particular activity, this program can be exercised, and it will produce a tabular and narrative report. This is the type of report a labor market analyst would normally produce, and this can be done for all the activity within a region. This provides information to decision makers who are looking at what kind of manufacturing or commercial expansion should be encouraged in a region, and what kind of training and educational programs might be undertaken.

Now this is not a panacea for all problems. Our lab map does not do everything. It is not a prediction scheme; it is a trend projection scheme. It will not predict a recession, or recovery, or temporary booms in the area. It is much more of a data smoothing process than it is something that foresees the future. We, too, do not know when that much discussed next recession is going to recur. Our programs can easily be converted to use the quarterly data that we have available. For example, three years of quarterly data would provide us with 12 data points which is more than enough for us to project ahead for the next two to four quarters and hence it could be made much more sensitive to what is going to happen next in the short run. Right now it is set up to handle every annual value and we project six years out into the future for more long term projections, rather than short terms. We could do the short terms too. It will not project rapidly changing low-level employment. It is not that good for those mom and pop stores that have one or two employees now and may have either six or no employees two or three years hence. It does not use any other kind of economic indicator to augment or supplement the projection. It is purely based on ES2-202 employment data.

How well does it work? Well, we use a decision tree process where the computer goes in, looks at the amount of data available; sometimes in a given subregion, we may have one single datum point available, mainly that someone has started working in that area in the last year, or there may be 15 or 20 years of data available. Our process looks to see what data characteristics there are and then chooses a projection algorithm which is subjective as to what we think the projection ought to be for that kind of data characteristic, or set of data characteristics, and then applies them. By so doing, we avoid the kinds of problems that many projections techniques have in that they project something that is literally physically impossible. We have put a clamp on wild guesses, and we have many different algorithms and possibilities that result in a fairly average picture on the reasonably conservative side.

We use two different approaches for a region. We can sum up all of these activities that are going on in a set of SIC's in a given area. Now, for example, in Hampden County there are 304 SIC's that have been active over the last 11 years. We can project the regional employment for that with our technique or we can go to the subregion where there are 23 towns. We can make the same

set of projections for each of those 23 towns working with much smaller employment values. If we do that we make about 2500 separate projections rather than 304 and we can then sum up the projections over all of these in each SIC and come up with a regional total. We do both because we do not think one is necessarily more correct than the other. They have different characteristics if you look for the total for the region, you are looking at aggregated data which has a smoothing effect. If you look at each of the separate towns there are plus and minus things taking place. As a matter of fact, in a given SIC in a region, there may be people leaving employment in one town and moving to another town and going to work in the same area. They still represent one employed person, just in a different subregion. It works both ways. What we have done is to continue to fine tune our projection process until we get reasonably good agreement by both of these which is pretty decent check. And we have some very reasonable projections here. We show what the total employment in ES2-202, excluding government workers at any level, looked like in Hampden County since 1960.

The data shows the cutback in work that occurred as the Vietnamese war was wound down. It shows the result of the 1974-75 recession. Although the county projections are the sum of 304 projections, the sum of the towns is the sum of about 2500 separate projections.

Although we have the full gamut of data available 1960 to 1977— 17 years of data—we have found that we get a better set of projections using only the last 11 years of data. We have found that we get a better set of projections using only the last 11 years. Part of this is because there was a population growth phenomena in the early years, that has not been present lately, which would distort the overall findings.

There are the eight occupational divisions that the Department of Labor in Washington has established: agriculture, mining, construction, manufacturing, transportation, communication, wholesale and retail trade, finance, insurance and real estate services, government and non-classified. In Massachusetts data on government employees is presently being collected by 202 and will be available in the future.

HIGH TECHNOLOGY: LABOR SUPPLY ENGINEERS TO ASSEMBLER

B.J. Rudman
Massachusetts High Technology Council

What is high technology? In Massachusetts high technology is a sector of the economy whose products and services reflect the application of the state of the art technology. In Massachusetts it is an industry that is primarily in the area of electronics and the applied use of electronics, such as computers. But it also includes companies that make use of the state of the art with work in chemistry, physics and the like. The important characteristics of the industry, at least in Massachusetts, are its strong technological base and an environment that is characterized by very rapid change and growth. Ten years ago a computer would have filled half a room. That same computing power can now be represented by a chip that can be held on the tip of a finger. And all the indications are that this technology is going to continue to advance at this same pace. That is high technology.

The Massachusetts High Technology Council is an association of the chief executive officers of approximately 100 Massachusetts high technology companies. Again, they are primarily in electronics and computer areas, but there are also representatives from companies involved with physics and chemistry. But there is a problem in that the high technology industry in Massachusetts is growing so rapidly that its demand for human resources has outstripped the supply. This is somewhat ironic because this industry has in fact prospered in Massachusetts because of the tremendous network of top quality educational training resources available in the state as well as the availability of highly trained and skilled labor force. As a result, these companies are exhibiting growth rates of 30, 40, 50 and 60 percent a year. And those are common growth rates. They are absorbing human resources at all skill levels. But the availability of the educational and training

system to keep up with this pace has been very difficult. The availability of human resources in sufficient quantities and with sufficient quality has become a major strategic issue for the industry in the state, and in the country as a whole. The ability of these companies to grow, to prosper, is limited not by their markets, not by the availability of finance, but by the availability of people.

Several chief executive officers have stated publicly that their companies would be able to grow faster in the state if they were able to find a sufficient supply of available labor. And this is a change of events because three or four years ago the question was whether the economy could generate enough employment opportunities to absorb the people willing to work in the state. The situation now, at least with high technology, is becoming increasingly the case of whether or not the educational training system can provide enough educational opportunities to people to adequately train and prepare them for the tremendous opportunities available in these companies.

There is a sense of deja vu in this because ten years ago the industry in Massachusetts could not find enough qualified people. Then, all of a sudden, the bubble burst and engineers were driving taxi cabs. But there is a fundamental difference this time when we talk about educating more and more people. That is because the industry itself has changed fundamentally. Whereas ten years ago, the indsutry was overwhelmingly dependent upon government expenditures, particularly with aerospace work and with the military work that included the Apollo Project and the Vietnam War, now the industry is much more diversified. This change can be supported by observing the types of products being produced. These include word processors, hand held calculators, digital watches, solid state components, televisions, cars, and the like. And these products and the related technologies are being used throughout the economy, in commercial and consumer applications.

In fact, one-third of the items produced in Massachusetts are exported. So the industry is much more diversified and, therefore, much less vulnerable to the changes in government policy and even to changes in the domestic economic posture because their markets are global.

But, despite this resurgence in productivity, the problem of an adequate supply of skilled labor still exists, and its dimensions are supportable. Recently, the Council conducted a survey of its member companies. These companies were asked to project their employment needs, in Massachusetts for a period from mid-1979 to the end of 1982. A three and one-half year frame was chosen because to project much further would simply be guesswork. Three years is a reasonable period to project for. Three years is a reasonable period to ask a company to project for.
The bottom line according to these companies is that they expect to create 53,000 new jobs in the state. Actually, because of turnover, the actual number is much greater. Specifically, these companies will have need for something in the neighborhood of 12,000 professionals, especially technical professionals including engineers and computer scientists. There is also a need for 10,000 paraprofessionals, including technicians and entry level programmers and other jobs that do not require four years of college. And these figures are for those companies which only constitute about half the industrial population of Massachusetts. For actual total demand, the figure of 53,000 can probably be translated into 70,000 to 100,000 for the total industry. Therefore, it is probably not 11,000 to 12,000 professionals, it is probably in the neighborhood of 15,000, if not higher. With paraprofessionals, the actual need is probably about 20,000 new jobs. These are very large numbers. They forecast a doubling of the technical work force within the next three years. That is an increase of two-thirds in the total employment base of the industry in the next three years.

The major question is whether or not these estimates can in fact be realized, that is whether there will be enough people to fill the jobs. The situation is difficult. Just look at the Boston Globe classifieds on any Sunday, and you can see that the situation is getting worse. On the demand side is the explosive growth these companies are projecting. On the supply side, the demographics are working against the industry. In Massachusetts it is a case of a twenty percent drop in the number of secondary school graduates. And this will soon translate into the post-secondary school level resulting in a decreasing supply at a time when there is an ever increasing demand. This is important because of the relationship of this supply of human resources to the growth of the high technology industry. The companies within that industry are profitable. They survive, they grow, they prosper, if they can expand the state of the art technology and apply that technology creatively and efficiently to their products and services. And it takes people to do that. It is said that the major assets of these companies take the Massachusetts Turnpike and Route 128 home every night. Their major assets are people. In fact, human resources are all their major assets. If they do not have people, they cannot design the products. The importance of human resources in this industry must be emphasized. It is a major strategic consideration just like finance or the availability of land in the fiscal capacity.

What are some of the solutions to this problem? First there is what can be done for the short term in Massachusetts. Clearly, there is a need for more skills-training programs. More training programs operated through CETA, through community colleges, secondary schools, and vocational technical schools to prepare people for these jobs. For the short term, there is a need for 10,000 to 20,000 technicians in Massachusetts in the next three years. That is a minimum of 3,000 a year. At present, the best estimate, an optimistic estimate, is that a

minimum of five hundred million dollars of federal, state and local dollars are available specifically to train people for specific careers and occupations. These resources are only beginning to be used for skills training for top quality jobs such as technicians and programmers. A technician today makes between six and seven dollars an hour, a yearly salary of $12,000 to $15,000, with excellent opportunities for growth. But more training opportunities must be made available to allow interested people to get some of these career benefits.

The Council in conjunction with the high technology industry has established a course which it is believed will train a person in 35 weeks to become a technician. And these trainees are not math whizzes fresh out of high school, they are high school drop outs. One of the more encouraging performances over the past year and a half has been the tremendous track record that has been set by organizations funded by CETA to train the hard core unemployed for these top level paraprofessional jobs. There is also creative activity taking place in secondary schools in cooperation with community college systems. For example, Marlboro Vocational Technical High School is training people who have graduated from the comprehensive high school with no marketable skills. These kids are being trained for 1,000 hours to become technicians and go to work for Digital Electronic Corporation or Data General at six or seven dollars an hour. Also, they are earning twenty credits towards their associate degree at a local community college. Their employer will also send them to school evenings to help them obtain that degree. So the resources are there and there are some tried and proven methods for getting things working. And more of that needs to be done.

Another area that needs attention is retraining and not just retraining at the paraprofessional level. Retraining on the professional level is needed just as well. In retraining people for professional jobs, more career bridges are needed.

as well. In retraining people for professional jobs, more career bridges are needed. For example, in this state there is a significant drop in secondary school enrollment. That is translating into teachers being laid off. The high tech industry needs people with good, solid liberal arts backgrounds with strong verbal and written skills who would like very much to start a new career in high technology but who have no easy way available to them to acquire the skills that would make them attractive to these companies. Many of them have to support families and cannot afford to go back to school for another three or four years on a full-time basis to acquire the necessary credentials.

With the cooperation of the State Department of Education, the High Technology Council is developing two model pilot retraining programs specifically for teachers. One program is to retrain these people as programmers and the other is for retraining as technical writers. It is hoped that the methodology being developed through these pilot programs can be applied in a variety of educational contexts for a variety of the population. Ideally the courses would be used to train people with liberal arts backgrounds evenings at their local high school or community college. And one outgrowth of training people to become programmers is that the individual does not need a strong math background. What is needed is the ability to distinguish in a disciplined, logical fashion.

Another type of retraining or refinement of the existing educational system revolves around attracting more women with science and math backgrounds into engineering. Women constitute well over half of the total labor force both in the state and nationwide. But they constitute only about five percent of the professional technical work force in the high technology industry because our culture has generally discouraged women from pursuing engineering careers. The elite women's institutions in this

state, places like Mount Holyoke and Simmons College, do not offer engineering programs or degrees. But they do offer very strong math and science programs. But a curriculum could be introduced throughout the state consisting of, for example, two programs where a woman enrolled in a science or math program could have the opportunity to also pursue an engineering degree. And at the end of five years she could have both a B.A. in science or math and a B.A. in engineering. Then she would have a highly marketable skill.

Another program worth pursuing is to take women in the work force doing research assistant type work and provide them with the means to return to school for perhaps a year in conjunction with an internship and provide them with the opportunity to acquire an engineering degree, building again upon their educational background and interests. This type of creative programming is very necessary if we are going to train the people to meet industry's needs. Two other thrusts in similar directions include a more aggressive utilization of major colleges and universities outside of Massachusetts in order to attract students to come here to study and work.

The other thrust involves a fundamental need to obtain a much better supply of data in the whole area of high technology occupations. Present data is limited at best, but it is the best demand data around. But to try and get comparable supply data is virtually impossible at this point. There seems to be no source for specific information as to what the projected supply or availability of electrical engineers in the computer sciences, for example, is going to be here in Massachusetts over the next three or four years. This is despite the fact that enrollment numbers for these institutions already exist. But better data for planning by both industry and education are needed. People in education are fearful that the demand will

evaporate in three or four years and they will be stuck with an oversupply. And that fear is valid because of their experience. What may be needed are frequent surveys or demand and frequent analysis on potential supply and frequent comparison of the two. Thus, on an annual or semi-annual basis industry and education could sit down and determine far more realistically what the need is, and what the future seems to hold.

For the long term a need exists to creat more educational training opportunities in the area of engineering and science. A more systematic career awareness program should be instituted especially at the secondary and even the middle schools to acquaint students, teachers, parents, counselors with the career opportunities in high technology. At present there seems to be little information and a lot of misinformation. This misinformation consists of myths such as a person having to be a math whiz or a graduate of MIT in order to pursue a successful career in high technology. A closer working relationship between industryand education is a solution for dispelling these myths and correcting the misinformation. And the opportunities that such a working relationship could offer both education and industry is what brings up a final point.

In Massachusetts the demand that industry has is such that it cuts across the whole spectrum of skills and is a tremendous challenge and opportunity for the educational system in the state. It is a challenge and opportunity to prepare their students for some terrific jobs and careers. And it is preparation for the industry of the future because it is an industry that becomes more efficient over time. In these inflationary times, it is an industry that is energy efficient in these energy constrained times. And it would be a tragedy if these jobs were not created in Massachusetts and filled by Massachusetts residents because of inadequate

educational opportunities for those residents. But the resources to make this work are here and the solution is viable.

But any solution is going to take a close collaboration of industry and education. Business has to articulate the need. One cannot say there is a problem and complain about education's lack of response unless the problem is clearly defined and communicated. Industry also has to be prepared to provide assistance to education in the form of financial assistance or equipment and that is happening in this state. On the other side of the coin, education has to accept the reality of the situation and make every effort to respond to it. And that seems to be happening, but education does need assistance from industry. Lastly, education has to aggressively pursue the whole area of career awareness to insure that teachers and administrators are aware of the opportunities so that they in turn can transmit that information to their students and counselors. And, as was mentioned above, they should have a finger on the pulse of supply so they can transmit that to industry.

Finally, the government perhaps should provide some financial incentives for industry so that it will be able to assist education with financial and material aid. If education is going to be asked to reallocate existing resources then maybe government should provide some financial incentives. Whichever method is applied, any solution is going to require a close collaborative effort between education, business and government. Without that collaboration, this opportunity will be missed.

A TRAINED WORK FORCE: KEY TO A FASTER START UP AND IMPROVED PRODUCTIVITY

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The factors that impell a company to relocate and the factors that influence economic development by allowing local industries to expand or that attract new industry are many and varied. But in Springfield, Massachusetts that industry's close work with the Hampden County Manpower Consortium, the CETA Prime Sponsor for Western Massachusetts, as well as the attitude of the City of Springfield and the community in general was a major factor in assisting a company to relocate to the city and it is worthy of elaboration. The attitude of the city and of its elected officials in conjunction with the business and education communities produced a climate attractive to new industries while being a source of encouragement to existing industries eager to expand.

For comparison, less than twenty years ago there was a Southern state with a labor force that was for the most part unskilled and untrained. As a result of a course of action similar to that applied later in Massachusetts, this Southern state succeeded in attracting mostly labor intensive industries with jobs demanding low skills and which, by and large, resulted in low labor costs. That was twenty years ago. Within the past ten years, this same state has attracted over seven billion dollars in new and expanding industrties. Thousand of new jobs have been generated and better than one-half of the labor force has been involved in training to acquire new skills.

The success story of the State of South Carolina stirs individuals in Western Massachusetts to get in one the act and find out the source of South Carolina's

success. And in pursuing the major source of this success, one answer kept coming up. That one answer was: If you want to attract industries or expand your presently existing industry, you need to have sound, accurate knowledge about your labor force availability. A community sells expansion and relocation to industry by being able to sell itself as a provider of a skilled labor force. And that is not an easy thing to do. It is difficult to accomplish because the sources of the statistics that are needed are skewed. The problem can be solved if the community bands together and develops a model which can be used to assess accurately that community's resources. Then the community can be confident that when it approaches industry that it has on hand well-substantiated, sophisticated information. This was the key to the success in South Carolina. Sound knowledge of what the community has to offer by the way of a skilled labor force.

And so people in Western Massachusetts set about their similar task by examining their labor force. The people involved included members of the Hampden County Manpower Consortium, its Director, Frank Gullini, the Mayor of Springfield, the Superintendent of Schools, and members of the Private Industrial Council, a CETA Title Seven organization of industry and union representatives, all of whom came together to work at developing a sound base of knowledge regarding the area's labor resources. And, as a result of this group interacting, some discoveries were made.

First, the community recognized and substantiated that there was a tremendous gap between the labor market supply and the demand of the machine trades that needed skilled workers and the electronics industry which needed assemblers. Because of this high industry demand and low labor supply, the Mayor's Commission on Technical Education and Training set about the task of influencing local educational policy in an attempt to convince people to respond to this industry demand. The

people did respond, and respond positively, because it is the local people that have an invested interest in the community in which they live. And the end result of all their efforts was very positive. So positive that in the last three years they have trained approximately two thousand people to meet the high demands of the electronics and machining industries.

This is not to say that the process was not without its problems. There were disagreements and even barriers with accusing fingers beings pointed by both education and industry until everyone finally realized that the only way to survive was through working together. That realization included a working relationship between the private sector and education. One of the more productive results was the establishment of the Hampden District Regional Skills Center. Located in the City of Springfield, the Center with an area of 150,000 square feet, can train upwards of two thousand people in the areas of critical need. And the successful operation of the Skills Center is a result of the interaction described above.

Part of that action included the application for and the receiving of the community development block grant funds which were used to expand the Skills Center's facilities. The cooperation of members of the Private Industry Council enabled the Skills Center to consult local industry in the development of training curricula that would best equip trainees. The superintendents of local school systems cooperated by encouraging students within their respective school systems to seek training that is related to the students career interests. At the same time the curricula of their schools was scrutinized as to its conforming with the skills that the students would need after graduation from high school. Again, it is an example of what cooperation between community members can have positive results.

Besides skills training, there are other innovative ideas that are coming to fruition. Using vocational education funds and working with the private sector, an effort is being made to store in a computer, information on every graduate of a vocational school in the country. This listing will include the individual's name and particular skills area. Graduates of local community colleges will also be included. At the same time, the private sector will be compiling jobs that need to be filled and the skills needed to fill them. And the private sector's involvement in this is vital because it is they, not the Division of Employment Security, who have credibility with the employment community. So this skills bank network will serve not only as a job bank but also as a constant analytical tool to discern what is taking place within the local labor market. It will serve that constant sensitive source of information that is so needed and which can be keyed to attracting new business and industry into a community.

So this process of labor supply and industry demand is not just a question of doing a survey and letting it sit in a report. Rather it is an ongoing process with people working full-time at assessing educational systems and the business community.

Besides the skills bank net work, the Skill Center and the local school systems are working together in a career awareness development program that brings groups of ninth grade students into the Skill Center for periods of time, in conjunction with their regular school activities, in order for them to explore various occupational areas. The Skills Center currently provides training in fourteen occupational areas and provides these students a variety of career related areas to participate in and to use in helping to define their own career interests.

Most of this progress above is the result of the leadership within a community working together to generate activity that will result in economic development. But even with the success discussed some problems do arise and must be addressed. For example, how does this commission go about changing educational policy? And some changes will have to be made if the educational system expects to meet students' skills needs and industry's labor needs. It is difficult to change educational policy because of the tenured staffing of these institutions which results in the entrenched organization. One cannot expect to invoke change just for the sake of change. But enlisting the aid of these people to work on smaller projects initially can provide them with a way to see what the community is trying to accomplish and how their help will benefit the project, the community, and ultimately them.

An example of this is taking place in Springfield where we can go into a high school and talk to the graduating seniors and begin to assess them for training programs for the summer months in order for them to more quickly respond to labor market needs. And as these linkages between, in this case, CETA and the public educational system are put into place both on the secondary and post-secondary level, the myth about the need for a two- or four-year college education is slowly being disspelled. The concept of taking pride in one's work which belonged to the artisan and his apprentice in the Middle Ages is an idea that young people can understand better than having to have a college degree just to have a college degree. In cases such as that, the student finds himself in college as an escape or as a means of obtaining security. Thus, providing these students with a means for individual pride is also providing the community with a means for changing the educational system where change is needed. A similar program is providing fifth and sixth graders with aprogram about the world of computers. These children are perhaps a generation away from a completely computer-oriented society but

there is tremendous interest on their part. There should be more of this type of education to better prepare these people.

What we are saying is that it is necessary to gain entry to the organizations and the people who have the power to make changes. These include the school committees, the superintendents of schools and the teachers' unions. And a program is needed to retrain teachers who have lost their jobs because of declining enrollment. They can be retrained for positions in the technical fields.

Finally, here is one more example of what this community, education, business cooperation can produce. Recently in Hampden County we bought a used 1967 bus for twelve thousand dollars. It was refurbished, reconditioned and air-conditioned. We then went to Digital Equipment Corporation and received $170,000 worth of computer equipment. With some matching funds from the Office of Vocational Education in Boston, everything came together in a computer bus that travels to the grammar and high schools in the county offering a three phase program to students to orientate them to the world of computers. No one of these schools would have been able to afford such sophisticated equipment, but by making it mobile, thousands of young people now have access to just such equipment as a means of familiarizing them with career options in this high technology industry. It serves to bring the career to the student, a career that can be accessed with a high school diploma and technical training and without the need for a college education. More importantly, it is an up-to-date example of the type of action that can take place when various members of a community, vitally interested in that community's future work together to plan for that future.

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A Trained Workforce: Key to Faster Start-Up and Improved Productivity

Unprecedented demand for white collar work has been cited by the Labor Department as the chief threat to many who will join the work force in the 1980s. According to a recent article in a news weekly, literally hundreds of thousands would be unable to qualify even for entry-level positions. Present-day training, the article said, has gotten away from stressing fundamentals. This is very much in line with what many of our recent interviews have determined. Even for warehousing positions, where only a minimum of reading and counting skills are required, personnel managers report a sizable number of applicants are found lacking these minimum skills.

Equally devastating, the article noted that many new entrants, armed with college and advanced degrees, would be unable to find the challenging positions they were trained for and would be forced to accept less attractive work. Particularly in the Northeast, where many parents exert substantial pressure on kids to continue their education, some bitter disappointments have occurred when the time comes to use that background to find a job near home.

Those concerned with the destiny of the Northeast recognize that the only really effective way to reverse the population downtrend is to infuse new life into the economic activity of the area. The results of the 1980 Census will make it painfully evident that a piece-meal approach does not hold the answer to continued erosion of the region's manufacturing base. It may be too late to stop the loss of representation in Congress or to reverse decisions on revenue allocations, but the Northeast still has time to regroup its considerable resources to attack

the crisis in a really effective way. Certainly a review of the roster of participants in this second Criterium indicates that the interest for success exists.

Norman Halls asked me to share with you some of my firms findings regarding the planning undertaken by companies in selecting sites, with particular emphasis on the labor pool: its size, make-up, and productivity. Before beginning, however, let me assure you that none of the clients, or for that matter prospects, have ever set forth as a requirement the retention of an institutional custom. Quite to the contrary, more than ever these customs are the impetus behind a relocation.

Although each of the more than 5,000 assignments which Fantus has undertaken may involve greater emphasis on one locational factor than another, certain elements are consistently present:

1. More often than not, a critical element in a locational decision involves considerations of labor quality, not just its availability or costs.

In most plants--notwithstanding the amount of metalworking in the Northeast---only a small portion of the workforce has readily transferable skills except for those in the maintenance area. Most of the workers are semiskilled, a quality that is developed by repeated performance at a work place in a particular plant, but one which probably has limited value, per se, in another company. Thus, a recruiter often finds little in an applicant's background which is directly usable in his own operation.

Put yourself in the shoes of a recruiter who has the assignment to man a facility. The major objective is to find people who can remain on the payroll. Why? Because shortly the company will be investing thousands of dollars in training that person. An attractive wage, a package of competitive fringe benefits and a corporate equal employment opportunity commitment may foster the submission of literally hundreds of applications. Now comes the task of sifting through the batch to identify those with the most promise. Just what does the recruiter look for? The results of our own confidential interviews—and we conduct many of them every day across the country—clearly indicate that those in Human Relations look for an ability to learn more and a favorable attitude. Mastering the basic skills in school normally provides a launching platform for the first attribute. The orderly environment of a production plant or an office usually hones the latter, including the favored traits of punctuality, attendence and neatness of dress. Those lacking this background are definitely at a disadvantage unless, of course, they have recently completed a special program designed to prepare them to make their way or give them enough self-esteem to want to go forward.

The reason for such an emphasis is a simple one: in the final analysis management is concerned with economics and productivity. Consumers are exhibiting increasing reluctance to accept higher costs in the market place, thus forcing suppliers to blunt the effect of any wage increases granted to their employees by getting more work accomplished, that is by improving productivity.

Historically, certain segments of the population have looked at this effort as one of merely making people work harder. As a practical matter, except in those rare instances where an employee literally does not work between starting and quitting time, asking people to work harder is only successful for short periods.

What is even more effective is the elimination of delays between instructions on what to do and the arrival of the work itself. When we talk about increased productivity, however, we must really talk about innovation.

Consider the chemical or the petroleum industries. Conversion from a batch to a continuous process enabled unit costs to be reduced dramatically before the skyrocketing increases of the 1970's. And what about the silicon chip? That 0.25 inch by 0.25 inch marvel has cleared offices of bulky mechanical calculators faster than an army of intruders could ever do and has spawned an entire new industry. Still another example is the books which will now never be printed, having been replaced by machine-readable media that can easily be updated. A review of the record will show that many of the new ideas emerged right here in the Northeast.

Such emphasis on innovation means that greater attention will be paid in the future on attitude, adaptability and trainability. Even now, a considerable portion of our field investigations is spent in trying to measure the quality of the local work force. How prepared is it to accept a controlled environment? How ready is it to learn how to perform an activity? How willing is it to adjust to new tasks?

For companies interested in a fast start-up, favorable answers to these questions are imperative. Management is perfectly willing to train its employees so they become proficient in their appointed duties, but it shies away from the task of altering behavior in order to build a stockpile of applicants. My own observation would be that a company would rather relocate than accept this responsibility.

2. The impetus for a move often comes from the consequences of an immediate problem: an expiring lease, unforseen escalations in costs, a shortage of applicants, etc., and not as an integral stop in an overall corporate strategy.

While the story may have unique features, let me cite a recent example of a hasty move which illustrates my point. A fire in a neighboring facility, which gutted the plant, followed by an unexpected visit from its burned-out proprietor, prompted the owner of an aging chemical plant to accept a purchase offer almost immediately and seek a new location. Ten months later the initial batches were brewed in another state and before the year was out the plant was operating profitably.

Obviously, a number of factors contributed to the situation whereby the owner would move so rapidly. Deteriorating productivity was forcing labor costs to rise faster than wage increases were being granted. Efforts to remedy the situation had fallen on deaf ears. With certain products the resultant penalty could be passed on to customers through higher prices; for others such a step was impossible because competition was holding the line. Several plans to revise the plant layout and install modern equipment had been advanced, but none had proved economic under present tax policies. But until the fire there never were any plans to relocate the plant. Considering the outcome, now the owner wonders why he did not move earlier.

Managers are often under intense pressure to provide satisfactory short-term results. Particularly busy ones, therefore, are liable to limit the number of factors and alternates considered, despite the modern management credo to emphasize planning. That is why we frequently find some dissatisfaction being

expressed by relocated managers, and the emergence of my own theory that virtually every plant is available to the right party three years after it is built. Perhaps the operation has grown more rapidly or slower than anticipated; possibly a new process has been developed which calls for a substantial overhaul of the interior; or maybe the expected return on investment just is not there. You may recall that for its assembly plant Volkswagen purchased a facility built by Chrysler only two years earlier, but one which it never occupied. The Volvo plant, in which no cars have ever been assembled, sits on property originally earmarked for a residential development. There are many, many other examples which can be cited.

Speaking about foreign companies, almost a third of our current assignments are with outfits domiciled overseas. The erosion of the value of the dollar since 1971, when it was cut free of the gold standard, has dramatically improved the fortunes of many countries in export markets, the largest of which is the United States. Most state economic groups have seized on the opportunity to import more jobs, often led on their trade missions to the most promising foreign countries by the governor himself.

And what a job some of these economic development groups do. They compile slick brochures extolling the merits of a location in their state; literally inundate prospects with reams of published data; arrange tours and interviews for searching companies with various officials from both the public and the private sector; and supply all sorts of information on transportation, labor, occupancy, utilities and taxes on an as needed basis.

It then become the responsibility of the company seeking a site to sift through the material and to decide whether the promise of highly skilled labor in one market

is a surer bet than the claims of it being available in another. Even real estate companies are now including a brief statement about the merits of the local labor pool in their pamphlets on individual buildings or sites. In the end, however, the acid test may not be provided by the owner himself, nor by the management, but by the transferee's wife.

Just before Christmas we had a call from a large metal working company which was faced with intolerable conditions in the neighborhood surrounding a building purchased only 10 years ago. Plant operating people had identified an area of promise some 500 miles distant, but management wished to confirm their results before committing any monies. Our on-the-scene investigation revealed the presence of certain unfavorable aspects of the labor market in the recommended alternate location.

You could hear a sigh of relief from the plant manager when we announced our findings, because his wife had seen an unflattering article about the community in an important newspaper only the week before and had announced her intentions not to go. However well the community might have shown could never overcome the impression provided by a reporter who focused on a single factor during his visit. In fact, the entire state reeled under the impact of guilt by association from the tar and feathering meted out by the article.

3. <u>While proximity to market, operational cost and availability of labor are certainly important, in the final analysis the quality of life in a community is of paramount concern to decision-makers.</u>

Heading the list of items which determines the quality of life in a location are community attitudes, particularly the apparent posture of local officials towards

business. Controversies which erupt into a war of words and jockeying for position detract from whatever benefits can be derived by business from public facilities and public services. What makes good newspaper copy does not sit well in the boardroom, and ultimately, if a decision is made to abandon a community, the greatest loser is the readership itself.

The second most important item which determines the quality of life is the apparent safety of the neighborhood for the plant, the labor, or the office. Crime is big business, whether measured on an organized basis or in terms of the simple break-ins which seem to occur each day in more and more communities. Companies that are forced to undertake extraordinary security precautions, not because of the work they are doing but because of the environment in which the operation is located, are certainly at a disadvantage versus competitors in areas with less crime. Often the impetus of one of our assignments is the desire for, sometimes even the necessity of, a safer location.

The third item on the list is the assurance that the performance of municipal services can be routinely counted on, or looked to in an emergency. Residents in a community develop over time a certain confidence in police, fire, sanitary and social services, but to a newcomer there is little to go on except litter in the streets, falling plaster in public buildings, potholes in the pavement, groups of loiterers, and sensational headlines. Under these circumstances it is difficult for management to do other than to opt for the community with the lowest tax load, from a corporate as well as a personal standpoint.

Another factor worthy of mention relates to the availability of nearby opportunities to take a break from the demands of a busines. Her regional preference as well as urban or rural heritage determine whether a transferee will be truly satisfied

with the change in surroundings. A devotee of French cuisine will never give a four-star rating to a salad bar-equipped restaurant in a motel, no matter how local people rave about it. Similarly, the best equipped athletic facility holds little appeal for someone wedded to an outdoor life of hunting and fishing. Within reason, however, a newcomer will make adjustments in lifestyle to match the attributes of an area, particularly if it results in closer cohesion among family members. Starting up a new operation tests the full resolve of everyone involved, and during the shakedown period a peaceful home life is especially critical. Now let us look at that the start-up, for it provides an excellent opportunity to blend together the talents of community and business, education and labor into a common purpose.

Generally, construction activity at a plant site prompts inquiries for employment. In time a notice will be posted that applications are being accepted, and hopefully a rush of interest will occur. However, not everyone coming through the door to sign on will prove satisfactory, skilled or not. Perhaps nine out of 10 may fail some aspect of the screening process, a procedure which is designed to insure that only those applicants who can contribute the most and who will stay the longest are hired. Unfortunately, the very first step in the process, filling out an application form, is often the largest single hurdle for residents with poor reading and writing skills.

As a frequent observer of the insides of plants, it is interesting to note how many tasks really require only minimum literacy. Machines can be operated, parts can be assembled and products can be moved without apparently calling upon the skills needed to complete the application form. No longer is the sole objective of employment to get some work accomplished. Now it is mandatory that forms be completed so reports can be filed with various government agencies. If that great American institution, the hamburger, is the subject to 41,000 state

and federal regulations, think how many a plant that produces them must consider. No wonder a top complaint of businessmen these days is that they are burdened down with regulations. But back to our friend.

Let us assume a reasonably willing work force is assembled. The personnel function will probably provide some guidance regarding employee benefits and then turn the candidates over to the production people for instruction. Undoubtedly for some of the candidates, the experience may even be their first time inside a manufacturing plant, a surprising situation considering the fact that over a third of the wages earned in this country are paid for work done in them. Many youngsters, particularly in the Northeast, have never seen the insides of where their parents work.

Training periods last for varying lengths of time depending upon the complexity of the operations being taught. For instance, according to a spokesman at the first Criterium, it takes two and a half months to train a person in how to read a blueprint and operate basic machine tools. Since most plants are being equipped with more advanced equipment, it is probable that many applicants at such a plant--perhaps our friend's plant--would need to be taught how to use them. This could take some time, even for those who have the basic skills.

One of the foundations of economic development is industrial training. In fact, most states head their list of locational advantages with the portion of a worker's wages they will underwrite during his or her training period, whether on-the-job or in duplicate facilities nearby. The program may even involve paying the salaries of company instructors or providing outside ones. At the conclusion of this training the worker should be able to perform productively.

But what about the applicants who cannot read or write, or compute? Surely it will take longer than 10 weeks for them to learn how to read a blueprint or to run a machine tool. Perhaps they never will be able to learn. Yet we should not relegate these people to a life of roaming the streets or living off the public dole.

The solution will not be found with our friend. The startup costs will be so great everyone will be striving feverishly to get production up to enough volume to break even. Performance will be watched closely and the weaker newcomers may find it difficult to meet quotas. So long as the clock is running, there can be no time outs for basic training. Clearly the answer lies in a marriage of education, government, and industry.

There are two very interesting programs being run here in Massachusetts: skill centers and self-directed placement. They both are directed toward overcoming the lack of basic skills and the lack of self-confidence. A key ingredient in both programs appears to involve creating a situation at the early stages in which the participant achieves success in operating a machine or conducting an interview.

There is also another, perhaps more subtle, plus to both programs. Participants starting simultaneously in these openeded programs will just naturally pair together. Particularly in an industrial environment, this comeraderie will help to overcome any feeling of being overwhelmed, for seldom in the North are children introduced to a factory as part of the school curriculum. Usually the two participants will remain supportive of each other until one successfully completes the program. Even then, the one still striving will have tasted enough victories not to slip back.

In concert the two programs meet the locational criteria of providing a larger pool of workers with a better attitude and a higher degree of skill than has been available heretofore. They go a long way towards bridging the gap between a school system, which is encountering difficulty teaching even the basic skills to certain recalcitrants, and private enterprise that has neither the time nor the know-how to undertake the mission. If carried forward, the programs, and others like them, are keys to a trained workforce, which can guarantee a faster start-up and improved productivity.

Thank you.

The Most Critical Factor in the Retention of Industry

Frank D. Gulluni
Director
Mayor's Commission on Technical Education & Training
Springfield, Maryland

The process of economic development and CETA is one that perhaps has come to the forefront only in the last year or two, during which time more emphasis has been placed on transitioning CETA participants into the private sector. No longer can we afford the myth that public service employment can provide the necessary impetus to establish for the participant unsubsidized employment in the public sector. There is an acute awareness throughout the country that full-time, unsubsidized jobs in the public sector, and more specifically, in municipalities, exist for the very few. Conversely, five or six new positions created in our job market today are located in the private sector. If CETA is to succeed, first, in changing its image and, second, in insuring the provision of marketable skills to its participants, there must be evolved a real linkage with the private sector.

Economic development and stability in a community is contingent upon the retention of existing industry and the ability to insure those industries are given every opportunity to expand and that new industries can be attracted to the community. For many years, local elected officials and state officials believed, and perhaps appropriately, that the one most viable vehicle to entice employers into their communities was through the provision of inexpensive land, low interest loans and tax write-offs. Obviously, these incentives and others of a similar nature are being provided by most states and cities throughout the country. It is essential to note that in the process of establishing an economic package for new and expanding industry most state and local elected officials made no mention of manpower resources. For many years, the manpower component was never a prime consideration from the levels of the elected officials and economic development experts.

Today, the most critical factor in the retention of industry and in the process of bringing new industry into the community is the human resources condition. Most employers cannot afford to train people for jobs that require very significant and specific technology. There are exceptions and those include usually only the conglomerates and major corporations such as IBM, Polaroid, and General Motors. It is industry's contention, and rightfully so, that the educational community has the inherent responsibility to insure programs are developed at the secondary and postsecondary levels compatible and commensurate with their needs. Unfortunately, this has not been and still is not recognized fully by the educational hierarchy in most communities. As a result of this unfortunate reality, many industries are leaving the northeast to relocate in other parts of the country and even to find foreign locations where they feel the receiving communities are more responsive to their needs for trained personnel.

CETA has an obligation and certainly the opportunity to provide its participants with skills for which there is a labor market demand. The institution of the private sector initiative program has brought into proper perspective the major objectives of the CETA program, especially as it pertains to the training components. Given the fact that CETA training programs are of a concentrated nature and offer the participant a stipend, we are in the very enviable position of becoming a major mechanism to meet the needs of the private sector by accepting the challenge to train in the areas of middle and high technology.

Perhaps, a page from my consortium's book can place the whole issue of CETA, economic development and the challenge in its proper perspective. Hampden County is comprised of 23 cities and towns and has a total population of approximately

500,000 people. The core city is Springfield, whose population is 170,000 people. Many years ago machining-type industries flocked to the western Massachusetts communities due to the sophistication of the local labor supply. Companies like Pratt & Whitney, Hamilton Standard, Smith & Wesson and American Bosch specifically sought out the Springfield area because it was felt that machine operators and machinists would be readily available. During the 1940's and 1950's this was certainly true, due in large measure to the fact that two of the major industries in our community, namely, Westinghouse and the United States Armory, provided employment for some 8,000 people, most of whom they had trained in some category of machining. During the 1960's and into the1970's, many young adults changed their emphases from considering high school an appropriate terminus to a process in which the attitude progressed toward improving one's life by matriculating to a two- or four-year institution of higher education. Concurrently, the two major companies enumerated had begun the process of phase-down and close-out. As a result, the training they had been conducting for many years was no longer available. Suddenly, the recognition came through loudly and clearly the skilled machinists that had been trained by industry during the 1940's and early 1950's were now at a point of retirement and indeed in 1979 the average age of the tool and die maker in the greater Springfield area was 57 years.

Employers throughout the western Massachusetts community are demonstrating very candidly their demands for skilled labor. It is their attitude they should not and cannot bear the responsibility to train people from the most rudimentary stages for the sophisticated kinds of technology in which they are involved. They are of the mind that tax dollars provided to local education agencies should be utilized to train individuals with at least entry-level skills for the labor market. In essence, we are left with a contradiction. On the one hand the education

community has been impressing upon young people the need for education beyond the high school level and conversely we have significant numbers of industries who have needs for young people to accept employment in technologies for which there is not a need certainly for a four-year degree and in many instances, even for a two-year associate's program.

CETA is in a position in which it can fill the void very capably, as the hallmark of most skills training programs operated within the CETA system are those of a concentrated nature. Certainly, one can train an entry- or even secondary-level machine operator or tool and die apprentice or computer technician within a period of six to nine months. In Hampden County we have been able to institute a number of measures to provide assurances to industry the community is sensitive to their needs and will do everything possible to insure people are trained to access those job opportunities. Hampden County is fortunate to have two highly visible and credible skills centers which possess the ability to train more than 2,000 individuals annually. During the nine years in which our skills centers have been in existence many thousands of youth and adults have been trained and subsequently employed in over 200 industries in and around Hampden County.

Until four years ago, the Skill Center was convinced it had the ability to train people only for the most rudimentary and entry-level positions. About that time we had the opportunity to meet with representatives of the Digital Equipment Corporation, which is housed in the state of Massachusetts and is one of the fastest growing computer industries in the world. Digital recognized the burgeoning need for electronics service technicians and computer technicians and inquired with the skills center as to the opportunity to train at these levels. Obviously, there was some reticence on our part, as we had not become involved in anything other than training for the most basic jobs in the community. Having

researched the job descriptions thoroughly, it was decided we would forge ahead and institute the necessary programs. Four years later, I can report to you the skills center has trained literally hundreds of electronics and computer technicians, most of whom have gone on to very successful endeavors within the computer industry.

As a spin-off to the institution of those programs, the skills center then entertained thoughts of developing machine programs at higher levels including a tool and die component. That program has met with major success, and last year the skills center trained and employed more than 300 people in its machining components.

Given the fact there is within CETA in Hampden County a successful vehicle for linkages with the private sector, I , the area manpower administrator, made a decision to convince the mayor to institute a commission on technical education and training. It was my concern that all parties in the educational system become integrally involved in the future of economic development in and around the Springfield area. The Mayor's Commission commenced activities some six months ago and in that short period of time has instrumentated two very significant thrusts. First and foremost, it brought together the major representatives of secondary and postsecondary education and the CETA system with representatives from the regional office of education, private industry, through Private Indsutry Councils, and labor unions. The second success is the fact that recently there has been formulated what is called a skills bank network. This will be under the AEGIS of the Private Industry Council and the Mayor's Commission on Technical Education and Training. In essence, it will list all students into three levels of secondary, postsecondary, and CETA in one computer system through which employers will have the opportunity to access individuals based on the provision of appropriate

job descriptions. The secondary effect of the Skills Bank is that through the job marketing endeavor that will be the responsibility of the PIC, we will have the opportunity to determine the compatibility between education's supply and employers' demands. As demands indicate significant variances from those skills that are available, the PIC and the Commission will work collaboratively and cooperatively to insure that appropriate institutions develop and implement programs commensurate with needs expressed.

It is unusual in the educational community to evolve the level of cooperation that has come about through the development of the Mayor's Commission on Technical Education and Training. To elaborate somewhat, the Skills Bank Network will impact on two skills centers, two community colleges, and six vocational high schools. This provides great opportunity for the participating educational agencies as they will have direct access to the Private Industry Council which will be doing the marketing to insure jobs are made available to those students who are prepared to enter the labor market. In addition, this process will reduce significantly the number of manpower agencies and educational institutions which interminably contact employers seeking jobs for their students. The Private Industry Council, as sponsored by the Hampden County Manpower Consortium, has proven to be a formidable force in spite of the fact that it has been in existence for fewer than nine months. The program is conducted through the Greater Springfield Chamber of Commerce and includes some 35 people in its membership. To provide you with some insight as to the effectiveness of the Private Industry Council, there has been instituted a machining task force within the Council. The task force is comprised of presidents, vice-presidents and plant managers of major companies throughout Hampden County, all of whom have desperate needs for increased numbers of machine operators and machinists. To provide some direction, they have come together and developed a number of position papers as to the

kinds of needs they have and how those needs can best be met. In a very short period of time, members of the task force have met with presidents of community colleges and administrators of secondary schools systems. As a result of those efforts, it is anticipated that within the next three to six months educational agencies throughout Hampden County will be increasing their machine shop training programs so that within the next two years there will be available additional hundreds of trained machine operators.

The same group has also met with the governor, the Secretary of Manpower Development, and the Commissioner for Commerce and Development for the Commonwealth of Massachusetts and have engaged them in a series of discussions relevant to the provision of dollars from the Commonwealth of Massachusetts to expand significantly the training capabilities of local educational agencies in our community. Presently, I am working on a proposal to be submitted to the Massachusetts State Legislature requesting seed money of $10 to $15 million for the purpose of training in areas in which there has been determined a critical need. All of this has taken place as a result of the institution of the Private Industry Council and the Mayor's Commission on Technical Education and Training.

The CETA Program has also been very instrumental in the establishment of two other major programs that will impact both citizens and industries throughout the county. First is the development of a mobile computer bus. This was achieved in conjunction with the state Manpower Development Office and the Digital Equipment Corporation. It provides high school students with the recognition that there are significant numbers of career opportunities in the computer industry. The bus visits school systems on a daily basis. Students are provided an opportunity to access the activities on the bus for a period of six to nine hours. During that time they become familiar with computers and begin to recognize that computers

need not be threatening, and secondly, we attempt to determine through assessment batteries those students who appear to have aptitudes for involvement in some phase of computer training. Reports are made available to the counselors with information as to the schools and institutions in the area that provide training in computer sciences. The bus has proven to be very successful and has been utilized not only with students during the regular school year, but also with significant numbers of students who participate in the CETA summer youth program.

In addition to the computer component, the Consortium has been integrally involved in the development of a program to insure increased employment opportunities for members of our large Hispanic population. The city of Springfield has among its citizenry some 15,000 Puerto Ricans. The unemployment rate among these people hovers between 30 percent to 40 percent. The skills center has been successful in providing opportunities for a limited number of these individuals to participate in training and to make a successful transition into unsubsidized employment; however, CETA resources are limited. As a result, together with a number of top businessmen and industrialists, a program has been established to employ Hispanics. The private sector made a decision together with the mayor of the city of Springfield that it would find the necessary financial resources to establish a formal program. The goal for the Hispanic employment program for year one is to provide employment opportunities for upwards to 750 Hispanics.

Economic development and CETA can and must work harmoniously--there is no other direction. Public service employment has proven to be a temporary condition for most participants and in the majority of cases this forum has not provided the base from which individuals can access full-time, unsubsidized employment. For CETA to succeed it must establish formal and lasting relationships with private industry.

Apprenticeship: An Old Tool Rediscovered

Roger Claymon
Connecticut AFL-CIO Labor Council

A major question today is where we can get skilled workers. I think during the previous speaker that was analyzed quite well. Industry is saddled with many different problems: high taxes, energy costs. How can we take young people and bring them into an aging work force? I think it was mentioned by the last speaker that the need to replace aging worker is very great. The average age of skilled machinist in Connecticut is over 60. Education is looked upon to perform this task and we have an historical concern with education in the labor movement. We feel that the public education is designed to educate the sons and daughters of working people. This comes from the old feeling of working people that they want to provide something better for their sons or daughters than what they had themselves. Education was the key to that upward mobility. The concent of career education has been discussed and rediscussed. There were ideas in Connecticut for example that what we should do is turn our vocational technical schools into Skills Centers and that this would be the beginning point of apprenticeship. Well that was unrealistic and never happened, and I do not think it ever will. First of all, we find that people coming out of the vocational-technical schools today do not have the skills. They simply are unfamiliar with the industrial operations. The best example of this is from the printing trades. In one of our letter vocational technical schools they are using the old out-dated typesetting method where you take a block of type and stick it up there on the line and then you crank out your type. They are not even up to the linotype yet and I think the linotype is already obsolete.

Machinery and industrial processes are changing rapidly and out schools simply do not have that kind of machinery to keep up. Now that doesn't mean we should give up on the whole idea and assume that at a high school age we cannot do anything to prepare. Our notion of career education was to give some employment exposure to high school aged students but not to deny them the right to get full and complete education in every aspect. In other words we did not want people moving out of classroom training and put into some Skills Center, given some in a couple of weeks we will be ready to show you this new trade. What ends up happening is that they never get to that new trade. They become a part of a low

paid work force on some educational agreement. This is not fantasy, this is what actually happens. I am pleased to say that this is not happening everywhere. Now just let me give a brief run down on how we felt about these technical vocational schools in Connecticut. I am sure you have the same in other New England states. They combined the best of classroom training with the best of the job training in school building itself. The best available in Connecticut enabled students to relate their classroom training directly to what they were doing on the job. They were directly related. A conscious effort was made so that if any math was required on the job, it was being taught at the same time. The biggest criticism of these schools was that they did not do enough for enough people. Only a small percentage of students could actually attend.

Our concern with career education is that it was being used by business as a way of eliminating the education that students would normally get this creating a low paid work force. Now career education has had some benefits. There are now Education Work Councils spread through Connecticut where the idea of education is discussed between local leaders of the Labor, Education, and Business. I think most educators are really thirsting to know what they should be training for. What does Industry need? So these councils have had that advantage of giving us some idea of what is needed and who is needed.

None of the problems we have in apprenticeship is that industry traditionally has been doing the training and ceased to do it. I do not want you to mistake the building trades and construction industry with the manufacturing industry. In the building trades the training was done primarily by the unions, and they had the responsibility, if they were going to use state or federal money, to comply with all state and federal laws, particularly with respect to affirmative action. They took on the outreach programs and they were responsible for seeing that they had well-trained people. They took that responsibility seriously because the unionized construction contractors were in competition with nonunion contractor to show that he or she could do a better job. That was to the advantage to both the contractor and the union.

Some Comments on Human Resources and Economic Development

Paul Braden
Economic Development Administration
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Washington, D.C.

I want to thank you and Don Clark, Norm Halis, Martin Clint, Smith and others who were gracious enough to have me come up at a meeting like this thinking that perhaps I could add a little bit to this meeting, having been on both sides of the fence. There are not to many of us that have made the cross over. When I first started my professional career I was in charge of cooperative programs in the Lansing Public Schools in Michigan. It was one of the most rewarding experiences I have ever had.

I must of had 115 promblem youngsters who were continually getting into trouble. I would personally go to find out what their particular troubles were. I would check with their schools and then with their employers. These personal direct contacts were immensely helpful. As a result, I was able to place the vast majority of these students in permanent jobs. The lesson from this is that we cannot just look at our problems in the abstract. We cannot just juggle statistics and develop sophisticated plans on paper. We must go out into the field and work will people. Personal contact and communication is the key to success.

Now let me give you an idea of what I want to talk about today. First, I want to say a few words about regional economic development: How little multi-county areas can be viewed almost like foreign nations struggling to increase exports and decrease imports. You can almost run the Springfield area like a small nation. The goal is to buy from the outside only what it is impossible to produce from within. The result is a true multiplier effect, as businesses spring up to cater to the area's consumers. And, of course, the public sector benefits from the increased tax revenues.

The basic problem in this plan is that local areas must first have a good environment in order to attract private businesses. Business is very particular as to where it will locate because location is a vital factor affecting profits .

In choosing a location business is concerned with several factors: quantity and quality of labor; community leadership; crime statistics; economic infra-

structure--roads, sewers, water systems; educational systems. The role of local government officials, then, is to make their communities as attractive as possible.

I also want to talk a little about EDA. EDA is that little agency in the U.S. Department of Commerce that spends three quarters of a billion dollars a year to stimulate economic development in so-called distressed areas for various target groups. Because of the usual pork barreling methods, almost any area can be defined as distressed and almost any group can be targeted. At the moment there is a bill in Congress to correct this situation which has considerable support, but is presently just setting there.

DESIGN FOR THE EIGHTIES

G. William Dudley, Jr.
Executive Director
State Board for Technical and Comprehensive Education
South Carolina

Here in South Carolina we have been blessed with getting our adequate share of funding, but a few years ago, we did have some internal problems but we did not lose faith with General Assembly but we lost a little of our clout so we did not get the necessary apportion. We suffered for a few years but we are back on the up-swing again because of technical education. I cannot emphasize that enough, it helps make the Tech budget, the State budget. We help pay the bills and that is the one thing that we keep selling because the investment the State of South Carolina puts in the South Carolina Tech program is simply a business investment. We like to be efficient in what we are doing, certainly in special schools. We are talking about say 10 to 50 in some instances. It is a 400 million dollar operation, and even if you have to spend an extra hundred thousand dollars, that is a pretty good investment return. So our philosophy in this state is, as I mentioned last night--or maybe it was in Boston the other day that we looked at these industries as our customers. Just as each one of you represent some type of service or some type of business back home, we look at these individuals as our customers; customers may not always be right but we certainly try to please them and make sure they feel like they are right.

I would like to say, that we, the Staff, have the best of both worlds in our State in regard to technical education. By law and mandate, we are the two-year secondary Board, so we are educators, and we are also in the business of economic development. Therefore, we live in the best of two worlds. I might say that this sometimes can create problems. I consider myself an educator. Sometimes, we get over here and we live in a little different environment, a little different society and become too sophisticated. Maybe this is what happened to us about four or

five years ago because I am not so sure we are going to address this to a design of the eighties. For example, John Galvin mentioned in the slide presentation that Continuing Education during the early years of Tech, the first ten years, we would go out into a business and put on these Continuing Education programs called upgrading programs.

We let a trainee enroll in Machine Shop 102 at night, we put him in Quality Control 103 and then allowed him to come back to the Technical college rather than going out in the community with a tailor made program. Now I am saying for a lot of us in education sometimes it is easier to have things in nice neat piles, to have a schedule all properly done, but in this State it won't work. In the South Carolina Technical Education system, we have to go out and develop these manuals. They are nontraditional. We sit down with the potential investor or industrialist in this State, be it a person who is already here or one that is looking at this State, and we come up with a textbook or a manual according to his or her needs. I do not want to stress that too hard but that is one of the things I feel that we constantly fight for in this State, keeping their proper balance because it is tough. The more sophisticated you try to get, you want to do this, you want to do that. If you lose the goal at the other end, and our goal is a very simple thing, to create jobs.

In this State, the bottom line of technical education is to train people for those jobs, to raise the capital income, and to raise the tax base. We are the two-year postsecondary Community College Board. I do not want you to forget that.

The next thing I would like to mention is this design for the eighties' concept and tell you how it came about. The basic skills are set and will always be important so that in no way are we talking about diminishing emphasis in basic skill training

in this State, since we have more and more sophisticated industries moving in and an increasing sophistication of the existing industries, we are talking about a little different type of employee than we were talking about ten years ago. We are talking about a more thinking type of employee, an individual who not only can operate the piece of machinery but must also be able to maintain, in some instances, that piece of machinery since certain industries do not appreciate any type of down time on a piece of machinery that might cost five million dollars.

We went around the State and came upon this concept called, "Design for the 80's." It has five basic points. Two or three of them are really things that are relevant to the curriculum. Jim Morris mentioned one of the approaches. We mentioned a moment ago about the evaluation of the curriculum to make sure it is on target. The second point is the cooperative programs. Certainly, cooperative education is not something that is new to the system but I think most of us are familiar with the cooperative program where the individual is in an Academic environment for a semester quarter and then will transfer to a business or industrial environment for a semester quarter. We are talking about a wider exposure which requires a slightly different approach, tailor making this program to the needs of individuals and as well to the industry involved.

I read the other day that by the time an individual born today reaches age 22, available information will have quadrupled; and by the time he or she has reached 50, the information available to that individual will have multiplied 32 times. Another way to look at it is that 97 percent of information available to that individual at age 50 will come about during his or her lifetime.

One of the things we hear plant managers or corporate vice president's talk about is that they are constantly inundated now with information, with computers,

and with MIS systems. They need some type of training themselves to decipher what information is going to help them make an intelligent decision, this is something new we never heard before from plant managers.

Now to return to the concept I mentioned a moment ago, cooperative education. In the special schools of the South Carolina technical education system, I would say that is 95 or 98 percent of what Earl does is a pre-employment type of training but more sophisticated and it looks like we will be doing more OJT, probably some vestibule type 101, 102, very similar to what Jim Morris mentioned a moment ago. One faculty or one instructor, or maybe four people in a training environment. We are also talking about extending periods of training. I think the average length of a training program would probably be 12 weeks.

Those of you in education know that Continuing Education certainly is growing by leaps and bounds. We have got to look at it with a little different approach now. The fifth point is a self-innovating technical training and I do not want to call this super tech and in no way will this compete with the 16 technical colleges, but it is a known fact that in this State, we do not have the finest resources to buy equipment; we do not have the finest resources to pay the instructor, but in some of these one-of-a-kind type of training, if we can get three people at Spartanburg that needs a certain type of training; three over at Greenville; or three over at Anderson; five at Charleston; two at Rock Hill; maybe five at Florence, there is no way on God's green earth that we can take a sophisticated piece of equipment around and we might have to tell this person to come down for two or three days to attend a seminar. We might have to bring them down from Boston; bring them down from Cleveland; we might have to bring them from St. Louis. Bring them down here in a central spot here in Columbia with this sophisticated piece of equipment because this type of training cannot be done out in the field or in the 16 operations.

Jim Morris mentioned a moment ago about Allied Health. It could be in the automotive field because you and I know that there is now micro processing in this field. It could be in welding; it could be some type of tool and die shop; a sophisticated shop--located right here in Columbia and what we are talking about is an entirely different approach not forgetting the basic skills back home. So what we did with this concept is that we went around to the 16 technical colleges in the State and invited industrialists, we invited anybody who would be a customer of our service in the service industry and governmental agency, business community, banking and insurance community to come in and we presented this concept. We got feedback from these people as to what they thought tech should be doing now at the local level, but also what the State tech systems should be doing for industry and business throughout the State in the decade of the eighties and nineties. We know we are talking about a different animal because I read somewhere the other day that by the year 2,000 out of every ten persons, one person will produce the goods for the others and the other nine in that group will get some type of social aid. We are talking about manufacturing here but we are also talking about a smaller, more sophisticated type of work force. Other individuals will be going into other types of trades which we have to constantly change in our curriculum.

Technology is advancing so fast that in the world of work, by the year 2,000, employees will be retrained four or five times during their career. Estimates are that the American Business industry now spends up to one hundred billion dollars a year in employee retraining. Futurists forecast that current records of higher education and technical retraining must extend in the work place and into the home to help people discover new careers. New technology, new career options, and a serious shortage of technicians throughout the nation have inspired a bold plan for occupational leadership in South Carolina. The plan is designed

for the 80's. It will make the year 2,000 more manageable by interpreting tomorrow's occupational training needs today.

Let us look at just a few rapidly changing areas in the South Carolina Technical Education system; Concept Design for the 80's, Energy Management, for example. American industry has the technical know how to reduce its energy demand for oil by the equivalent of six million barrels per day by the year 1990. Part of the savings will come by simple housekeeping such as eliminating heat loss or adjusting light and space requirement. More energy can be saved by replacing old equipment. A national pilot two-year degree program in Energy Management Conversion is in progress at Greenville and at Georgetown, two of South Carolina's 16 technical colleges. Energy Management is one of many occupational programs the South Carolina technical education system has designed to promote industrial progress.

Take another area demanding high technology know how, Information Processing. A child born today will see the information quadruple by the time he or she finishes college. By the time that person is 50 years old, the amount of information available to him will have increased 32 times. This means that 97 percent of the information he has access to will have been acquired since his birth. The development of the silicon ship in 1971, the same technology that put calculators in everyone's pocket and made computers a 12 million dollar business two years ago, has also changed the information process. One of the South's first computers purchased by Georgia Tech in 1955 needed 3,000 vacuum tubes and a ten-ton coolant system to do what the smallest business computers now perform routinely. The decade of the 80's is expanding low cost options for information processing. This is increasing the demand for new systems in industry, health care, education and government.

Technical education is training employees of the future to help design, build, service and repair laser machines and many computers in an innovative high technological environment. Tech is designed for the eighties. There are five primary training components. These components are: curriculum relevance, cooperative education, special schools, industrial training, continuing education and a center for technical training. All components incorporate the advice and expertise of South Carolina's most progressive industrialists who serve on Tech's Area Division and Advisory Committee. Several components incorporate a fleet of mobile training units equipped with advanced one-of-a-kind equipment to make Design for the 80's flexible, mobile, and relevant throughout South Carolina. These self-contained travelling laboratories make high technology training possible in such unlikely places as shopping malls, world community centers or even tobacco fields.

Curriculum relevance is the first priority in Tech Design for the 80's and is the ultimate goal of all occupational training programs. Twenty years ago when Tech was conceived, curriculum relevance was somewhat easier to insure. Tech leaders would consult with industrialists about general training requirements, then a special school would be initiated for special training to provide industry a steady supply of skilled employees. In the past 20 years though, certain programs have become obsolete with changing technology, electronics, environmental engineering, energy, and health care have stimulated a need for new programs. One way Tech proposes curriculum revelence is by better tapping the advice and expertise of industrialists to help update traditional tech programs and establish new ones. The involvement of the private sector with occupational planning is vital for new graduates to meet the demands in the work place. Basic skills such as math, reading, and information analysis remain important to each tech curriculum. Basic education is essential to successful high technology programs.

The second Concept to Design of the 80's, Cooperative Education, is another channel to insure curriculum revelance and high demand for Tech graduates. A fresh approach for cooperative internship will allow flexible scheduled traditional classroom education with specific on-the-job training at one or more industries. Tech's new emphasis on cooperative education will make creative use of the student's knowledge. Cooperative education is already important to several Tech curriculum, but it should be a vital part of occupational training in each one of the two-year Tech programs during the eighties.

Another component designed for the 80's, Special Schools, has been a cornerstone of Tech since 1961. Special Schools otherwise known as industrial start-up training for South Carolina's new or expanding plants have been focused for international attention. Special Schools were short term industrial training programs to prepare high school graduates and drop outs. Eventually, the concept grew and today the special school students come from many educational and cultural background. Employee recruiting, scheduling, training, and planning are coordinated by Tech to help match people with jobs. This coordination allows an industry's efficient start-up at minimum costs. The Special School training of tomorrow must incorporate extensive research today. Research about new technology, systems development, manufacturing costs and trends, analysis and planning. Mobile units will provide Special Schools' flexibility. Research will insure relevant specifics and immediate industrial training is the essence of Special Schools.

Design for the 80's proposes extending training beyond meeting new demands of changing technology. Continuing Education will be another aspect of Tech's plan for the eighties. Tailor made full length or mini courses in Supervisory Management, Stress Control, New Management Technique, or New Technology will be provided in plants or in the classroom at the local Tech college.

Responsiveness is the key to Continuing Education for the eighties. The Center for Innovated Technical Training Proposes and Design for the 80's will be the halo of advanced technology and a form for industrial progress throughout the Southeast. The A. Wade Martin Foundation named for Tech's first director will develop a Center to put South Carolina in the vanguard of occupational training. The Center will be centrally located and easily accessible to mass transportation systems. It will feature seminars and exhibits. It will host conventions and sponsor numerous workshops and special events. The Center for innovated technical training will introduce industrialists to advanced technology and provide a facility for Tech faculty and staff development. It will introduce industrialist prospects to Tech capabilities. It will be a national resource for information about new processes and innovative concepts.

The South Carolina Technical Education system has helped promote 11 billion dollars of economical investments in the State since 1961. The State Tech Board and each college of the system have developed an internationally recognized base for occupational training. As the economy of this State diversifies, so must Tech's round of opportunity. The U.S. Department of Labor predicts that South Carolina's labor force will experience the second largest growth rate in the Southeast in this decade. Approximately 75 percent of these new jobs, available through the decade of the 80's, will require technology training below the baccalaureate level. Design for the 80's will make that training available throughout South Carolina.

I think what we are trying to stress for the Design for the 80's is that, first of all, the reason that this program has been successful in this State is because we have a close relationship with the State's Development Board. The relationship between business and the industrial community was established from the outset

and it has been that way ever since. This is one thing we have to constantly fight for and maintain with our own people because as I mentioned a moment ago, down through the years, some people came in and got a little complacent and maybe a little successful and then forgot some of the fundamentals. It is like anything else, you do the basics, the blocking and tackling to win the game. That is where we have to constantly strive to make sure we keep in constant contact with the people we are serving in this community.

Secondly, we must stress active committees. We utilize advisory committees in this State, they are not simply paper advisory committees. That is the best way to get the expertise that you cannot afford otherwise.

Thirdly, we go in the field either with Earl's representatives or at the local Tech college to throw out the input and to get feedback from them, to see exactly where we are on target or off the base before trying to meet these needs for local, as well as, statewide needs.

If anything, I would like to leave you with the thought that I feel we have been successful in this State because we do maintain constant contact with the people we are serving. I think that has been the bottom line for the ongoing success. Once an industry or business has located or expanded in this area, we do not forget them.

QUESTION: The local paper last night had a story about a Constitutional Amendment filed by the majority of the Members of the House and Speaker concerning State spending. Would you care to comment on it?

SPEAKER: This is part of the National trend, sir, that just started with Jarvis in California and a certain interest group here wants to limit spending at a certain level. Our local State monitor is called a Budget Control Board and they have done some primary planning on this particular Amendment and it is estimated right now that it will affect the annual State Appropriation by 300 million dollars. So, at this point, I am not sure what kind of support it is going to get on the Referendum. I am not sure how your State operates, but in South Carolina, we have to operate on a balanced budget; we cannot have deficit spending in this State.

One further thing on this Bill: in 1960, the total State appropriation was about a quarter of a billion dollars. This year, it is about one and a half billion with a proposed one and three quarters billion for next year.

This is going to be accomplished with only one major tax increase during that period of time. This is a one percent increase in sales tax, although we have had some minor tax increases of a penny or two in the gas tax, cigarette tax, alcoholic beverage tax, and things like that.

QUESTION: Tuition is low, isn't it $150?

SPEAKER: That is the maximum tuition. At one time back in the early 60's, the school's tuition was $35 per quarter. The idea was to make the school accessible to every citizen in this State by having a low tuition. But, as the

years progressed, inflation took over. Currently, the tuition rate is anywhere between $75 per quarter up to the maximum $150. Included in there would be the tuition for expendable supplies which is basically going to be the $75--you can add on additional funds, student activities, additional funds for local revenue sources for building, things of this nature.

QUESTION: In Massachusetts, the Community College tuition money, day division, goes to the Commonwealth. Do you control your own tuition money?

SPEAKER: This is maintained back at the local college where there are expendable supplies.

QUESTION: So if this Jarvis thing goes through, at least you have got the flexibility of increasing your tuition.

SPEAKER: Yes, at the local source, there is local control. There are three major sources: State funding would be about 60 percent, 40 percent would come from tuition and fees, and then the local County appropriation.

QUESTION: Do you have cross country fees? And is there any problems with funds?

SPEAKER: This is not a problem. However, if a student goes to another Tech college, he or she might have to pay an out of county fee because of local support to that college.

There is a problem on a Statewide program, one-of-a-kind program. This has to be worked out because we are recruiting state wide for our Dental Hygienist program, for example.

QUESTION: Do you have a connection with your secondary schools for the eighties? What is your relationship?

SPEAKER: With the area Vocational schools, it is actually excellent. We have about 57 area Vocational schools in the State that are restricted secondary students. Our relationship is very good. As far as the public schools, we are working on that. It is the responsibility of each of the colleges to maintain that liaison at the local level. Some individuals come out and say that with a High School diploma they still have a lot of deficiency with the 3 R's and will not make it in the eighties. So, in the Tech colleges, we have Learning Resources which have study programs to build up these deficiencies for the High School graduates before they enter the Engineer Technology or the Allied Health Programs. That is one area we are working with, especially for the public school people and in the Vocational schools.

QUESTION: Do you have cooperation at the Board level?

SPEAKER: The State Superintendent of Education, K-12, sits on our Board as an ex-officio member.

QUESTION: Do you have a way at your level to see whether or not people get trapped in remedial programs unnecessarily?

SPEAKER: Our ultimate goal is to get somebody out on a job. I would say that our philosophy is to get these people through the best way we can, and get them in some type of occupational program. What is available is a gigantic testing procedure to keep a measured progress as they go through the program.

QUESTION: Do you maintain training materials centrally at all of the schools? Are these training materials available for possible adaption for other specific industry training programs?

SPEAKER: Yes, the training manual is really the responsibility of the State Office and the industry involved, and these could possibly be utilized by the local college.

PART IV: PANEL

Harrison Moore
Human Resources Manager
U.S. Chamber of Commerce
New York, New York

In the program at work in the United States Chamber of Commerce we have an education committee that is devoted to education, employment and training. Two of the items that Madeline Hemmings, our new executive for that committee, is working with constantly are Supportive Youth Employment Programs which emphasize school-to-work linkages. Our long range priority is to develop model career education programs to facilitate employers' participation in community career education programs. In my travels in the Delaware to Maine area during the last six years, I have found that those organizations that started with a cross section of people were successful and I would like to give you just two examples. In Stamford, Connecticut, we started talking about the ideas of putting educators and and business leaders together. Those of you who are familiar with Stamford know that perhaps the third largest concentration of corporate America is in that Greenwich-Stamford area. Over 40, major corporations have their headquarters there. The young man at the Chamber of Commerce there said, "Well, I have a Master's degree in economics and I think I know what your talking about, I will put together a curriculum for training teachers." He sat down and worked lovingly and long over developing that and took it to the education system and said, "Here we got a great program for you, fly it." And it didn't fly.

In another community not very far away from here in Lowell, Massachusetts, a group of business leaders got together with educators and said, let us try to put something together ourselves. Let us see what we have to work with in our community and let us do this as a joint project. He was successful because the people who would implement the program has a hand in designing it. If there is no other principal that you take away from this meeting today make certain that you include a cross section of all of the interested parties.

How many of you are educators, teachers, or administrators? How many of you represent business? How many of you are middle men like myself, combining the two? The industry education council types certainly are the latter. To me that facilatator role that you have is absolutely essential. I have a son who is a junior in college. When he was in high school in 1976, I went to the career

coordinator of his high school and offered to work with her in getting business leadership of Westchester County to come to the schools to talk about jobs. You know what her answer to me was? We don't need it because we got it all on a computer. I know the president of the school board and I know that some other things have happened in that school to make change that we wanted to see happen. My only thought that I want to leave with you today is really to make certain you have a combination of the business leadership and educators working together. I have with me a series of publications we have put out that describe specific activities of the local Chambers of Commerce. If you are an educator who has not developed a path to the Chamber of Commerce door. I urge you to do it because of the benefits to be derived.

Lewis Hariman
Vice President
Manufacturers Trading Bank
Buffalo, New York

I just want to speak briefly to educators and to the business and to those facilitators who are in between and are trying to put us all together to strongly express my confidence and faith and encourage you to vote the same confidence and faith in all of the people that we are dealing with. It is frustrating to deal with youngsters who come from very deprived backgrounds: of social difficulties, language difficulties or economical difficulties or whatever. We have them all. We have led-poisoned kids in the schools; we have kids whose mothers beat them up before they go to school; we have everything. But all in all there are very few if they get tender loving care of the primary school teachers or the sensitive understanding of manpower training directors or teachers who cannot make it. You cannot make it if you assume that everybody is like everyone else. Each person is different. Everyone of us has problems. Every single one of us can be curious to take advantage of opportunities, but it does take person to person action. That does not have to be expensive. I have seen this done in everything from little buffalo ghetto schools where a class of all black second graders was brought up to snuff in three or four months of effort by a capable teacher that cared. I have seen it happen in many areas. When you show the individual that you care, you do it on the basis without over increasing the costs of operations and you can do it if you can get the people helping each other and believing in each other. Success is possible in all of these training endeavors. If you do not believe it can be done, go to a place like Consolidated Edison where they are willing to change their entire program around. Others are doing the same thing--the Bell System is doing it--I could take examples from all over the country. There are better ways to do things; we do not have to continue to fail. We do not have to have a vast youth population 18 to 26 years old, who know they cannot function, are turned off on society, and wonder what their future is. This population can be related to the rest of us but it takes a new approach. It takes everybody working together--schools, business, labor.

William Joyce
Vice President
Greater Boston Labor Council
Boston, Massachusetts

I really feel like a fish out of water here because I am the only participant at this function that represents labor. I happen to be the Vice President of the Greater Boston Labor Council and on behalf of the Greater Boston Labor Council I welcome you to Boston. I am chargined at some of my other compatriots in labor who I understand were invited to this Conference, but for some reason did not find it within the realm of their duties to attend. It might have been to your advantage if you included somewhere in the title of your organization some participation by labor. They probably were turned off by the fact that there was no representative of labor in the education consortium. I know that in this area, particularly in Rhode Island, labor plays a significant part in the Industry-Education-Labor Councils. I can say that my attendance in this meeting has been rewarding; particularly interesting has been the remarks by the young Congressman from Pennsylvania and by Dr. Donald Clark regarding the attitudes of Industry-Education-Labor and how we can best utilize the system. I know the frusration that many of you may feel if you sit on Advisory Councils because I sit on the Vocational Advisory Council in Boston. I know the frustration of trying to get things done--trying to cope with the bureaucratic Board of Education and particular court orders that we have to work with. I know that the kind of effort proposed here today will bring about some kind of meaningful change. I could not agree more that the emphasis on work and education is the catalyst to stimulate the kind of motivation that students need to continue their education. I know from where I speak because as a youngster, I was one of those nonconformists. I was a problem child. I was perhaps turned off by many of the subjects that I was forced to take, and it was not until after I got out of secondary education and started to work and that I realized how much I had missed. As a result, I decided to go to to night school to really improve my own career as a journey machine metal worker. When I finally became interested in educating the people in my own industry, I was a journeyman sheet metal work, working as a foreman. I had people coming out of my own apprenticeship training program--at that time we had a five year program--who absolutely had wasted five years of time and training. I became a member of the apprenticeship committee, and I developed a curriculum. I eventually became the training director for my industry. I know

that there are many kids that go through this educational system that can be salvaged, that can be motivated, that can be educated. There is something prideful in being a worker.

John Jenness
Director of Human Resources
Consolitated Edison Electric Company
New York, New York

I do not think I want to spend much more time here, you have heard my story. I would like to reinforce that what Harry Moore said which also ties in indirectly with Mr. Joyce's comments. If we are going to make this whole system work we have to make sure that everybody is a part of it because if you participate in the development of a program you will take part in its implementation. If we exclude a part of a group that is involved it is not going to fly. My staff is continually going out talking to the foremen, talking to the business agents, talking to the people on the line to make sure that our programs are job specific. People are taught in the schools what they are going to do out on the job. We do not want to hear, "It is silly to waste my time learning in that school because on the job they do do it that way." That does not happen because it is up to my staff to make sure it does not happen. Because we have to get out of our ivory tower that management is sometimes in and make sure we are doing what needs to be done.

Walter Muther
Vice President
Associate Industries of Massachusetts
Boston, Massachusetts

I am going to discuss two or three assumptions that should fester cooperations between education and business. At this moment we are developing a macro approach to education. That is, education in our country will be directed fromabove, by a single, monolithic unit, the Department of Education. The private sector in contrast is extremely atomester. There are an almost infinite number of participants, acting automonously, all pursuing profits. Without profit the individual business cannot exist. And there is an absolute lack of permanence in this situation--small businesses, for instance, only last from three to five years.

As a result of these diametrically different approaches, youth in our society are not being prepared for the labor market. Education pursuing some broad nebulous objective--often defined by current political a social fasions--fails to prepare youths for the actual jobs that exist. Individuals in business, on the other hand, preoccupied with the maximazation of profit of their own firms only become concerned with training and education when dealing with their own employees; they completely ignore the broader education system which provides them with the products they find so inferior.

To solve our employment problems, therefore, it is necessary for these two, now autonomous, groups to inter-relate. Education must consider what type of curriculum is necessary to produce individuals able to attain gainful employment in the private sector. Businessmen must try to shape the educational curriculum so that it corresponds to the needs of the job market.

PART V: PRESIDENT'S COMMENTARY

PRESIDENT'S COMMENTARY

The growing proliferation and diversity of strategies, programs, and community based mechanisms designed to improve education-to-work connection suggested the need for a state of the art assessment in this area of industry-education cooperation at this time. There are sufficient data from research and development activities conducted during this decade that provide practitioners with a realistic framework for initiatives designed to prepare youth for a productive role in employment. My purpose is to comment briefly on the nature of the process and two areas--staff development and the Industry-Education Council as a delivery system--as a major components of the tota' effort.

Developing and implementing a comprehensive community based work related program in our schools, one that includes career, economic, and consumer education along with vocational education, is a slow, long term, incremental process. Bringing the education and industry (business, labor, government, professional) sectors into an alliance, establishing goals and priorities through careful planning, and effecting change in the total school program through staff development, constitute a time-consuming effort. There are no identifiable realistic short term alternatives to building the base for a comprehensive work education program which contributes to the improvement of the quality of the labor force, an area's economic development, and the reduction of structural unemployment. Patience, thorough planning and evaluation are required on the part of the schools and industry in designing local initiatives--a formidable challenge in an age of great expectations and instant solutions.

Consider the changes required in integrating a workeducation program, i.e., economic, career, and consumer education, into an existing academic program. These three areas are so closely related that there are times when some of the basic learning

concepts in each are identical. For example, learning about our economic system requires knowledge of the important role played by the consumer. Consumer education, in turn, requires an understanding of how business, government and other partners in the economic process interact with the consumer in a competitive market system. Preparing fora career includes an appreciation of how that career contributes to the economic benefit of society and the individual. Incorporating these concepts into the curriculum at all levels, a complex and slow-moving process, is accomplished primarily through staff development.

Educators need to acquire the appropriate technical skills, attitudes and knowledge in order to develop a program for all students, one which consists of a planned blending of teaching-learning activities, guidance and placement services, ongoing evaluation systems, supportive occupational information and a management system--all linked to a community base through an Industry-Education Council. Establishing a coordinated system comprised of these work education components represents a formidable undertaking. Again, the key to stimulating evolutionary change in educational program is through teacher/administrator/counselor/librarian participation in staff development. An articulated work related program needs to be initiated at the elementary school level to be more motivationally effective. In his study on Public Education and Industrial Training in the 1980s (June 1979), Dr. Clark Abt of Abt Associates, Inc., recommends that schools:

> Bring information, experience, education and training about the world of work down to the lower and middle elementary grades where children are at the peak of their interest in adult jobs and how to do them. This would involve the development and implementation of diverse job-oriented social studies curricula and materials, with experiments and field trips.

A strong staff development program becomes the base for implementing school-to-work transition services; it requires leadership within the schools, significant budget support from the education sector, and an effective industry-education alliance that reflects a long erm commitment to incremental improvement in the quality of work related curriculum. In an age of immediate expectations, such a commitment is a challenging problem for education and industry.

Bringing industry and the schools together under the umbrella of an Industry-Education Council is required in developing community support for all components of a comprehensive work education effort--staff/curriculum development, career guidance, career exploration/work experience and school based job placement. The Council represents an alliance between two independent systems with their different organizational structure, goals, and methods. During the past 15 years, NAIEC has provided leadership in bringing these two worlds into better alignment ithout sacrificing the essential functions of either. The Association has emphasized industry and education joint participation in improving the school-to-work connection. While "Communication" is acknowledged as the first step in forming an industry-education alliance, the state of the art of cooperative or collaborative activity between the two sectors reflects a movement toward the participation level.

A 1975 National Institute of Education sponsored research project, Bridging the Gap: A Study of Education-To-Work Linkages, points out that communication devices are regarded as "weak" links in bring educational systems and the workplace into alignment. The findings in this study "support participation as the most desirable level of linkage for our society." The cumulative experience of NAIEC's network of affiliated Industry-Education Councils indicates that industry-education cooperation Council sites is well beyond participation by both sectors in the communication

level of development; active participation by both sectors in the previously cited areas, offer the most realistic opportunities for stimulating change in the school programs.

Improving the education-work relationship, therefore, involves a process that is not easy, fast, or inexpensive. An overemphasis on short term transition services at the secondary school level in preparing youth for work is not consistent with the need for a comprehensive approach to this area of human resource development. The research and demonstration projects in career education, for example, sponsored by the U.S. Office of Education during the past eight years help to reinforce the major points of this article: a work related program should be implemented at all levels of education beginning in the elementary school; it will survive or fail depending on the nature and the scope of the in-service training/staff development program; and the process for integrating work related concepts into the curriculum is incremental. In addition, a strong community based mechanism such as the Industry-Education Council, wired to both academic and vocational programs, provides the capability to mobilize the key volunteer resources of an area for the various components of a work education initiative.

We are at the point where it is most important to sort out the assumptions, exceptations, and realities associated with improving the education-to-work connection and the role of industry-education cooperation in this national priority. If anything, such a process should lead to: improved planning at the local, state, regional, and national levels; reducing duplication of effort, e.g., community council mechanisms; and reinforcing the need to reach students through a work related curriculum developed by educators with appropriate skills acquired through staff development

with the assistance of leaders from the business/labor/government/professional community.

Dr. Donald M. Clark

President

HAMPDEN DISTRICT REGIONAL SKILLS CENTER

The Hampden District Regional Skills Center contains space for some fourteen occupational clusters in addition to programs in basic education, English-as-a-second language, and high school equivalency training. The total square footage of the two skills centers is 150,000, and they are located conveniently in the two largest cities in Hampden County; namely, Springfield and Holyoke. The Skills Centers have been in operation since 1970 and as a result have become well know to the participating population and of equal importance to the industrial community.

As a result of the recent expansion of skills training facilities, a decision was made to institute a non-profit corporation within the skills center framework. Heretofore, the skills centers had been under the jurisdiction of the Springfield School Department and hence were in a position only to impact those populations that emanate through the CETA framework. With the advent of a non-profit condition the skills centers are in the enviable position of being able to work in Tandem with the private sector. This could operate through the mechanism of the Private Industry Council.

As the training facilities now have a capacity to impact more than 2,000 participants annually, there is a dire need for extension beyond the focus of CETA. The present plans require that CETA will be responsible for accessing 70 percent of the total population capacity of the skills centers and the private sector will accept the 30 percent factor.

During the past four years there has been a burgeoning attitude that CETA participants could achieve more than entry-level employment status. It is important to note that during the past four years programs of major career magnitude have

been evolved and are in progress. These include the Electronic and Computer Technician, Machine II, Tool and Die, and Drafting. The individuals who graduate from these programs are most often provided with salary levels ranging between $11,000-$15,000 annually. The combination of CETA and private sector once again is established through cooperation and collaboration as observed in the overall operation of the Hampden District Regional Skills Center.

CETA'S INVOLVEMENT IN HIGH TECHNOLOGY

One of the more interesting facets of involvement by the CETA Prime Sponsor has to do with the city of Springfield's determination to bring to the general community a number of high technology electronics firms. As a result of a combined effort of public and private monies, there is now in place an $11 million pool which is designed to insure that a high technology company moving to the Springfield area will be provided all the necessary enticements for relocation and expansion.

The Greater Springfield Chamber of Commerce and the banks have instituted a three-person team to visit high technology industries in order to present the Springfield package. One of the members of this group is the Prime Sponsor of the Hampden County Manpower Consortium. Essentially, I have the opportunity to travel with a representative of the Chamber of Commerce and a bank president to provide firms with an entire rationale as to why it would behoove them to relocate to the Springfield area. Essentially, I am in a position of developing for these firms a training package to include the numbers of participants that can be made available through CETA and the timeframe for instituting and completing the assignment.

Thus far, the program has proven quite successful and there are very real opportunities that within the next six months one or more companies may decide to relocate to our community. One of the principal reasons for this potential is that the Hampden County Manpower Consortium together with the skills center is the only operation presently in the Commonwealth of Massachusetts that can develop the kinds of programs that are consistent with the immediate and the long range needs of electronic operations.

Mayor's Commission on Technical Education and Training

Less than one year ago I convinced the Mayor of the City of Springfield that under his AEGIS there should be established a commission on technical education and training. The major objective of this effort was to insure the future stability and expansion of economic development throughout the community. To achieve this required the involvement of all educational agencies at all levels of function and sophistication. The mayor invited to serve on the committee his director of economic development, the prime sponsor, members of the Private Industry Council, representatives of local unions, and, most importantly, superintendents, directors and presidents of education agencies.